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THE EDUCATION OF GRADUATES.

BY

SIR ANDREW MACPHAIL, Kt.,

B.A., M.D., C.M., M.R.C.S.Eng., L.R.C.P.Lond., F.R.S.Canada,

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Medicine is the only profession which shows any concern for the further education of its graduates. Upon a given day the graduate may profess that he has acquired the mystery, but no one believes him. There is a great gulf fixed between knowing a thing and professing to know it, and a still wider gulf between the knowing and the doing of it. Study of medicine must continue so long as life endures.

Medicine is a profession with an immemorial tradition of service, to be rendered freely to humanity, with a single eye and a pure intention. The votary is set apart, empalisaded, or crucified to the world, as one might affirm with textual truth. He testifies not that he has all the knowledge of the masters, but that he has entered into their spirit, and has the beginning of wisdom.

The entrant upon this career also signifies that he brought with him to the schools a mind, and that something was done to that mind whilst he remained at school; that, in short, his mind was educated up to such a point as the original material would permit; but always remembering the dogma which underlies the fable of the silken purse and the sow's ear.

This process of education is carried on by the senses. Eyes are taught to see, ears to hear. Events are observed, and some effort is made to understand their sequence, connexion, and results. Medicine in the case of each student is thus freed from its old habiliments of witchcraft, magic, and sorcery; it is become scientific, and in his own time the student lives through the whole history of the art.

If every graduate brought such a trained mind to his advanced studies, the problem before the teacher of graduates would be easy. He would continue an education which had begun long years before, and raise it to a higher point. On the other hand, if the mind is not receptive, discriminating, able to assimilate or reject, it will not integrate the new learning into itself; and what should make for strength is become a useless burden. Graduate study may then be worse than useless if it clogs a dulled and uneducated intelligence.

It is quite true that these considerations apply with equal force to the undergraduate. He may have entered into the new world of medicine with a mind unaccustomed to intellectual processes, or brutalized by a long routine which goes by the name of secondary education. It must, however, be placed at the credit of any system of study that, whilst it allows many aspirants to proceed, it destroys the ambition of others, and directs them into more lowly paths. Even a bad system, if not too hardly pressed, is better than none at all.

And working still further back, we are bound to notice preliminary education, which is the first step towards entrance into any profession or any trade; and there we shall discover the source of all our evils, industrial as well as professional. These evils in turn have arisen out of a civilization which has become detached from the soil, and is now in all essentials a slave society in which any little Spartacus may seize control.

It is a condition of life that the experience of parents shall be transmitted to their young. The she-wolf teaches wolfing to her pups, and the bird flying to her fledglings. Domestic animals alone are allowed to grow up in ignorance. Without traditions, without arts or crafts, the yoke of servitude is the more securely fastened upon them.

Within the time of the present generation the young of the human species has fallen to the level of the domestic animals. They are taught nothing. They are segregated from older persons from whom they might learn. They are immured in a building. To quiet their minds and quell their spirit they are given a series of tasks which are all one task—namely, to regard certain emblems fixedly. In time these black emblems upon a white page combine themselves into categories which are known as words; and these in turn are considered to be the same as things.

This task is performed under the eye of a master who has attained a certain mastery over words. He can read them and he can write them. If he can combine them into larger categories called sentences, he is then known as a professor; and if he contrives to convey any sense by this process of writing, he gives up the trade of teaching and takes to literature. It was not long before it was discovered that a grown man was wasting his time in such an occupation. Young women disclosed a special aptitude for the business, and they soon gained complete control over the minds of the young. A teacher is now usually described as "she."

There was a time when the young of the human species, especially the male, was of some value. From the age of three years he could do something. He could control domestic animals of the lesser breeds, since the opposing muscle in his thumb enabled him to hold a small stick. As he increased in stature he was assigned to more definite tasks. By doing them he learnt to do them, and when he had attained to the age of seven years he was more than self-supporting. In those days a child was an asset. He was easier to rear, and he was more valuable, than many other animals. Also he had a value of a much deeper kind, and account was made of his fitness for another world than this.

It was many years before the public mind became insensible to this new system of instruction. At first there was revolt on the part of all the young, and this revolt was shared by many of their parents. The most stringent laws were passed, and truancy, which was at first a struggle for freedom, came at length to be regarded as a crime, when the public conscience had been dulled by a generation of tyranny.

This system of immuring children in schools where they pass their time in learning to decipher symbols printed upon paper, is of very recent origin. Life had become intolerable as periods of peace increased in length; and hunting, no longer a necessity, ceased to be a sport. This activity of mind found an outlet in debauchery. The mind must be dulled. It was remembered that clerics, who were condemned to a sedentary life, dulled their minds to a point of endurance by the practice of reading books. Henceforth for all idle persons who were too feeble of physique or too sensitive in conscience to indulge in debauchery reading became the sovereign remedy against weariness of mind.

The ability to read soon became a sign to the world of ability to live in idleness. A class distinction was created; and all class distinctions are valid only in so far as they indicate the nicety of balance between idleness and a continued interest in life. Within our own time, when all class distinctions began to grow irksome, few could live without work; but all could learn to read and write. This was a proclamation of independence. It was observed that persons who were not in possession of these accomplishments must work with their hands. This discovery subdued the spirit. The desire to escape from manual labour then proved sufficiently strong to persuade the young to endure the misery of enslavement in a school.

Interested persons who lived by the system were found eager to ameliorate its hardships by persuading the victims that they were undergoing a process of "education." Under so honourable a cloak this meretricious system has worked havoc with the national life. It has seized upon young persons. It has retained them in its grasp for ten precious years. It has left them uneducated. It has prevented them from receiving any education whatever.

When the public conscience began to stir, the soothsayers declared that the system was not sufficiently rigid, that the years must be lengthened, and more money spent. We are now at such a climax, and the new "education" is the result. It is the outcome of minds dulled by living immured for fifty years within school walls.

Soldiers look upon civilians as creators of recruits; schoolmasters look upon the populace as propagators of pupils. Both should remember that there is a point beyond which they will not succeed. Men, and women too, have it in their power to decline. In the industrial community the production of children does not now offer many attractions. This is not the moment—in the waste of war—to make the burden intolerable. A labouring man

will hesitate long, especially in these days when his judgement is unclouded and his natural desire checked by strict sobriety, before he takes the chance of burdening his family with a girl who must be supported in the idleness of a school until her form is mature, or with a boy who is not permitted to earn for himself the necessary penny for shaving his beard. Nature is much more nicely balanced than those persons suspect who deal habitually with the children of other men.

These professors of education with their own eyes in their papers have failed to observe that the race has grown tired of reading and has reverted to the older practice of looking at pictures. Even the newspapers designed for a wide circulation consist almost entirely of "cuts" and diagrams. Whilst reading was a novel accomplishment it captivated the race; but now like an outworn idol it is cast aside with ignominy.

This scepticism has infected even the chief apostles of "education." They too have lost faith in the efficacy of books, and they are now amassing for their support the teaching of trades. This controversy is not new. It was old when Aristophanes directed his attention to it. It all turns on what we really mean by education. A blind insistence upon books and schools will destroy the evils it would create, since it will yield a generation without children to be destroyed by the system which it provides for their education. There is no evil without its own cure.

We have been astray in our education. We have been equally wrong in our science. We have mistaken facts for truth, and placed all truths in the same category, estimating the number of persons and things in a country as equal in importance to the truth, "that the kingdom is within you"—that, in short, physical facts are identical with moral truths, that research in a laboratory is the same as research in the mind. We are prone to think ourselves much wiser than our fathers, but the veracity of angles was known to Euclid, and the veracity of life to the Hebrew prophets.

Even in matters of pure fact the ancients were not so ignorant as we are fain to suppose. Most of our scientific discoveries are nothing more than explanations of world-old experience. The cave mother observed that her offspring must eat animal fats and raw vegetables if they were to have sound teeth and hardy bones. We have allowed teeth and bones to decay whilst we were inventing the term "vitamines." There are persons yet living who remember the days when the child of humble parents was at first suckled, and later allowed to gnaw a piece of carrot or turnip; to suck an apple, orange, or lemon; or even chew upon a piece of muslin containing a morsel of raw meat, and fastened to the waist by a string to prevent its being swallowed. The same child was permitted to come to table and complete its dietary by snatching a wholesome piece from its mother's plate; whilst the child of the rich was segregated in a nursery and starved upon a scientific food.

There is now some hope that we shall revert to the earlier practice, since the Royal Society has allotted a Royal Medal for the discovery—to employ the modern jargon—"that when, instead of the eighteen different amino-acids composing the protein, five only are administered, death rapidly ensues if those five be selected from the simpler aliphatic components—for example, leucine, valine, alanine, glycine, and glutamic acid; but that, on the other hand, nutrition and life are satisfactorily maintained, at least for a considerable period, if the five amino-acids given be chosen from the more complex types, such as tyrosine, tryptophane, histidine, lysine, and cystine, which experiment has shown to lie outside the range of the synthetic power of the animal body."

Astonished by the complexity of our discoveries, we are blind to the larger issues of life; but it is the fate of every art and of every school to think that it has attained to finality. Pneumonia was definitely mastered in 1805. In 1860 Erichsen asserted that surgery had attained its fulfilment; and no surgeons were ever so vociferous as those who declared in 1914 that they had arrived at a perfection of technique. When put to the test of war they discovered that they had merely attained to a mastery of wounds which they created with their own tools under conditions selected by themselves. It was more than two years before they had devised a surgery suitable for war.

It was thought that all the fields of medicine had been at least surveyed; and yet trench fever came upon us like a new calamity. As long ago as 1597 an epidemic fell upon the world. Calenus described it as *ob occulti coeli influentia*. We call it influenza, and are pleased with our perspicacity. We have isolated from children's diseases, and these diseases fall upon armies of adults with the force of a new plague.

If, now, I have left the subject no clearer than I found it, I have, I trust, shown how complicated it is—that all education is one, that a pernicious beginning works its evil through the secondary school, the university, the professional school, and the graduate course. But things are what they are, and those who have to do with advanced medical education must deal with conditions as they find them.

English medicine has always proceeded upon the assumption that new discoveries can only be made by following out old paths; and rarely has it entered upon those paths which lead nowhere but into the desert of barren speculation. Medicine is an art founded upon observation, with experience alone for its guide—observation, that is, with the human eye of the complete patient, and not of parts of him in the form of a slide under a microscope.

When medicine forsakes the patient it becomes futile. And this patient must be regarded as he is, in the circumstances in which he chooses, or is bound, to display himself. When medicine leaves the bedside it is lost. The *post-mortem* table also is a kind of bed, a κλίνη, and its teaching clinical. To the bedside the Father brought the medicine, and there he left it. With that cold Greek precision and serene impartiality, which the English have inherited, he recorded what he saw, and his case reports remained unmatched for lucidity until the time of our own Sydenham.

Medicine is a way of life, and the prospective practitioner is the best judge of how far and how fast he can go. He knows his own capacity and feels the bounds of his ambition. He has a safe instinct either for the village practice or the consultant's room. Breeding, training, position, all impose their limits. The doctrine that any man can do any thing is quite new and quite false. The first business of the teacher is to provide practitioners, not to create scientists, and the two are by no means identical. The truth is that the function of a medical school is not in itself intellectual nor scientific. Its final work is to create a reasonable nature and an honest mind.

No student can learn even a little of everything. A student who has not developed an instinct for following what is true and turning aside from what is false has learned nothing. Even scientific medicine has always been prone to lose itself by following after false gods. It has always found the true path by returning to the human body. Of all new schools anatomy has ever been the root, not the anatomy of the oyster or the frog, but the structure of the human frame. That is the one safe preliminary scientific study. Anatomy, like geometry, can be learned by sheer force of industry. Its truth is apparent in itself, and does not depend upon authority. Of students who in the beginning are systematically bewildered by biological subtleties few ever afterwards find their way.

English medicine has always proceeded upon the belief that every student could learn something, and it provided for every student as much as he could learn. It also recognized that for the average practice a definite degree of knowledge sufficed if only the mind were open and the spirit honest. A man must judge for himself how much he is able and willing to learn. Accordingly, certain standards were set, or, rather, one standard was set with successive marks upon it, against which a student was free to measure himself.

In the United Kingdom there were in my time, and I understand it is so yet, twenty-four of these marks, and a candidate might choose any one as his measure of growth. Having attained to one he might aspire to another until his full stature was attained. Up to a certain point the teaching was identical. It became more special as the student advanced from licentiate to member, from member to fellow, or doctor. In the clinics at least all candidates met together, and each took as much as he could master. The teacher soon distinguished between the receptacles, and the overflow from one was received by the others. All teaching then was graduate teaching.

The history of medicine did not end with the Renascence. It has ever since been, and is now, in progress. It is governed by causes which are immutable. In medicine, as in all other arts, life and death go hand in hand. When it appears to flourish most it has already begun the slow gradation of decay. In the backward abysm of time one discerns certain glowing points: the approach and descent are lost in the void of history.

Up to the Renascence the whole story can be told in one sentence. Hippocrates stood midway between that event and the earliest Egyptian, with a period of 1700 years behind and before him: from the twin roots of anatomy and physiology medicine arose in Alexandria; it divided into three branches—dogmatic, empiric, methodic, to which Galen, Sextus, and Soranus have affixed their respective names: it took refuge amongst the Saracens, and was next discovered in the school of Salerno, where it remained in Graeco-Arabic guise until it was united again with its great Greek original. In that long period medicine had wandered from Cos to Alexandria, to Rome, to Gondisapor, to Salerno, and only met with science, as now we know it, in the person of our own Harvey; and the two grew into one in the line of Bichat and Laënnec, as Dr. Whittington has so acutely observed.

The subsequent story is modern; but, ancient or modern, medicine has always been a part of life, no better, no worse, and not different. When deep darkness settled down upon humanity medicine was equally engulphed. We ourselves have lived through one of these periods of efflorescence, and did not know it. The signs now are that this time of flowering is at an end. None can say how long the seeds will lie dormant or what the resurgence will be.

When the medical history of our own time comes to be written the point most clearly observed will be the laboratory. Uniformity of teaching will be disclosed as the guiding principle of our education, based upon the predominance of the machine as the motive of industrial life.

Eight years ago a voluntary appraisement of medical institutions—as if they were iron mills—was undertaken by an American device, known as the Carnegie Foundation for the Advancement of Teaching. What turned out in effect to be a "black list" was prepared. This list in the hands of a powerful rival was a deadly weapon, and it was used with effect; but with the elimination of the feebler schools much sincere teaching also perished.

No one dissented from the accuracy of the verdict upon the principles formulated and the evidence adduced; but the principles themselves were challenged, and the evidence was impugned on the ground of inadequacy. The report dealt with externals, material equipment, and uniformity was glorified.

In these eight years, and especially in the last four, we have learned much, and there is at the moment a delicious irony in reading Mr. Flexner's report. We can now accept with some complacence his charge against the English consultant, that "scientific distinction is a becoming decoration; it is not the breath of his nostrils." We too, like Mr. Flexner, have been amazed at "the speed with which a novel standpoint travels over Germany"; but we are now less enamoured of travelling standpoints and more content with our own which remain fixed. "This quick apprehension and incorporation of 'demonstrated truth' is responsible," Mr. Flexner has "repeatedly pointed out," for "the uniformity of the scientific institutes in respect to type, organization, and ideal."

We may well be forgiven if we do not now share his ecstasy in contemplating a perfect uniformity. Diversity is the law at least of English life, and at its peril the whole earth becomes of one language and one speech. From this dead level men begin to erect anew a tower of bricks and slime, whose top is intended to reach unto heaven, so that nothing can be restrained which they imagined to do. His giantship of uniformity is going somewhat crestfallen in these days, walking with less unconscionable strides. English medicine and English life may now take leave to be less apologetic about its existence in the world.

There were physicians in the world before Hippocrates, and there were teachers of medicine in England before the scientist immured himself in his laboratory: no one but an ignorant and Chauvinistic fool will decry and deride what is done outside of his own borders, or fail to give credit where credit is due. There is a deeper folly in following false gods just because they are alien. Moloch and Juggernaut we have seen face to face, and we have not knelt down or taken to flight. It is not by mere chance that Paracelsus, the master quack of history, had for proper name Von Hohenheim; but it was a strange accident by which his first name happened to be "Bombast."

English medicine in the last thirty years has lost its pre-eminence merely because it stood still, declining to follow in the false path which was marked out by an alien school. This path with its signs, "efficiency," "progress," "science," has demonstrated itself to have been false, and English medicine may now resume its march by way of observation and contact with the reality of disease.

The genius of English medicine has always lain in its power to observe cases. Disease is a thing in itself, and can be recognized as easily as flowers of the field or the faces of friends when these are seen often enough. London is the place of all the world where cases may be seen. No other can compete. Laboratories may exist in any corner, and research can be carried on in the dark. Provincial towns have their own sphere, as the German towns had. They may well continue to be the resort of specialists, but London will stand unrivalled as the centre where cases can be seen. From cases all practitioners can learn something, and the few can learn much.

But medicine is not all of medicine. Craft and art have their place; and of graduate medicine hand work leading to technical skill is the principal part. To observe is not everything; to do is its fellow and consequence. The graduate is not now content with looking over the shoulder of another: he must work with his own hands. Of all men who profess an art or craft the recent graduate is the most ignorant, however learned in science he may be—more untrained than a nurse, more incompetent than a medical orderly. In this chasm lies the main use and success of the modern graduate school.

Men are no longer content to "walk." They demand a place where they can stand still, or sit down, to work with their own hands. This was the valuable part of the German discovery. The Vienna clinic in laryngology owed its fame to that old woman, Frau Gaille, who upon her own person taught the graduate the use of his tools. The London teacher may teach with the tongue of an angel, and yet be ineffectual unless he provide means for acquiring a handicraft as the old practitioner provided for his apprentice.

English medicine lost its pre-eminence in medicine merely because it declined to follow the fashion of the day. That fashion has passed with the nation from which it sprung, and the laboratory is assuming its former place as the adjunct and not the master of the ward. English medicine will then come into its own, and the clinical teacher will once more be the thing. There are men yet living who remember the great days of Wilks (1911), Paget (1899), Jenner (1898), Bowman (1892), Gull (1890), Fagge (1883), Watson (1882), Murchison (1879), Hilton (1878); and the tradition is still alive of Brodie (1862), Addison (1860), and of Bright (1858). So modern seem Hutchinson, Pavy, Matthews Duncan, and Hughlings Jackson, that, though they be long dead, they yet speak to us.

The succession in English medicine has never failed, and will not fail even if at the moment it appears to be in abeyance. The history of physiology may be cited as proof. It is the simplest and most obvious. The first to give formal lectures on histology and physiology in England was William Sharpey at University College in 1836, and he continued to lecture until 1874. He begat Burdon-Sanderson, who succeeded him and then went to Oxford; Michael Foster who founded the Cambridge school; Gotch who succeeded Sanderson at Oxford; Schafer who succeeded Sanderson at University College and is now in Edinburgh. These men in turn begat the present school of English physiologists.

Sharpey taught physiology by exposition and discussion, by inciting men to observe the natural phenomena rather than by experiment, although he did not neglect it. To him physiology was one of the humanities. The modes in which life was manifested and maintained were, he taught, matters that should interest every intelligent man, and were of particular concern to those who aspired to be physicians. By him the best minds were directed to study disease as a derangement of function; and, directly or indirectly, all the English physicians in the mid fifty years of the nineteenth century were influenced by his teaching.

At this time the biological sciences were concerned almost exclusively with observation. The names of Owen, Hooker, Lyell, and Darwin prove it. The physicians belonged to the time, and they too were observers. In teaching they used the method of exclusion. Their diagnosis in the ultimate resort rested on *post-mortem* observation, and when the case was fatal they were nearly always right, or right in part. As William Jenner once said, "I usually find what I expect to find, but nearly always more than I expect."

In our own time this science of observation has fallen into decay, and physiology itself has been affected, due, as the Medical Research Committee as late as September 30th, 1918, reports, to a defect in the system of education, which has allowed the physiologist to remain too much in academic retreat and the clinician too far from the laboratory and its methods.

Scientific research in itself will not make a medical school, graduate or undergraduate; but a medical school without research is like a ship without a compass. Yet even with this useful instrument the course is never made in the direction to which the needle points. The course is shaped, and the compass keeps it true. A school without guidance of the scientific spirit towards the end that cannot yet be seen will quickly miss the things that should, and can, be seen. The lonely worker in the laboratory, who deals with truth in the abstract, is monitor of those who work publicly in the wards. He is looked upon with respect and fear. He is to the school what the eye of God is to the world.

Those who by taking thought would institute a formal system of graduate instruction in London would do well to remind themselves that such attempts in the past either ended in failure or had at most a partial success. The experience of the London Medical College and Polyclinic, of the London School of Clinical Medicine, of the North-West London Post-Graduate College, and of the London Post-Graduate Association will be remembered as proofs.

But if these experiments do not encourage, they need not deter. They had their uses. Down to the year 1884 the fortnightly meetings of the Pathological Society in the old hall in Berners Street were crowded with the keenest men in London, and drew an audience from the provinces; but when bacteriology, the infinitely little, and experimental medicine became dominant they faded away. Before the year 1852 there was a society which demonstrated What to Observe at the Bedside; but it dissolved when Argyll Robertson observed without its aid the somewhat obvious phenomenon which bears his name. Nothing is permanent.

Medicine being a part of life has been for the past four years a part of war, and it is as such that it is now known to several millions of men. Medicine has come out of the college and the consulting-room into the field, not with trailing robe but in soldier's garb, as a hardy, humble, and faithful servant. To these millions of men medicine is now identified with the medical corporal and the stretcher-bearer, from whom they never failed to receive quick and efficient aid.

These millions will in future look to medicine for service of the humbler kind, which will in turn remind medicine of the humble origin from which it is sprung. This should be a warning to those who would make of medical study an over elaborate procedure, a too scientific and dignified pursuit. It may even come about that perhaps after all Harley Street will not be considered the only delectable abode in the world, and that the dressing station of the field will take its place in civil life, where for a humble sixpence can be obtained relief which is now laboriously sought at an expense of two guineas and much time.

Medicine in London is at a standstill because men are waiting for the waters of the University to be troubled. They have been waiting for forty years, waiting for the machine, and neglecting the man. It is not without meaning that London has never been a medical school, but a congeries of schools, competitors for students, without any common meeting ground, or any common standard of teaching or attainment, except in so far as the Royal College of Physicians and the Royal College of Surgeons, which give diplomas, determine a standard by their requirements for examination. The physicians are not materially different, although the College of Physicians is governed by the whole body of Fellows meeting together; whereas the College of Surgeons is governed by a small council elected by the Fellows of the College. Even when London was at its best there was no central body with authority and resource adequate to warrant the task of attempting to co-ordinate teaching and research. The University of London has long been a national or imperial university without a teaching staff; and although the medical schools are called schools of the university, they are yet independent bodies, and not one-fifth of the students are undergraduates of the university.

Some organization, of course, is necessary for graduate as well as for undergraduate teaching. The two are one. The Royal Commission on University Education in London in 1913 recommended as good a means as any—namely, that three hospitals with medical schools attached should be established as constituent colleges in medicine of the University of London as reorganized; that in each of these medical colleges there should be professorial chairs in the three main divisions of medicine, surgery, and gynaecology, with associate professors.

The kind of organization known as the "hospital unit" appeared to the Commission to be well fitted for attaining this end. In the words of their report, it consists of a professor with the control of wards; an out-patient department; assistants nominated by the professor with a view to completing his own knowledge and affording him the special assistance he requires to carry on research in the direction in which he is interested; and finally, laboratory accommodation in close proximity to the wards, not only for the service of the wards and the examinations and procedures connected with the diagnosis and treatment of the cases, but also for the purpose of research.

Nothing could be more simple or more complete. It is simply a question, in the words of the report, of appointing a university professor and arranging that his department shall be so organized that he will be able to do his work. A professor of literature or history must have his library; a professor of chemistry must have his laboratory and assistants. A professor of medicine requires the organization of the hospital unit, if he is to carry out his threefold duty of curing the sick, studying the problems of disease, and not only training his students in the technique of their art, but giving them university instruction in the science of their profession.

At a later date, after medical colleges of sufficient size and number to provide for all the university medical students in London had been established, there would, the Commission thought, be no objection to organizing a hospital of smaller size as a post-graduate school for the reception, partly of graduates from abroad, and partly of students from the other university hospitals who desired to pursue their studies.

This last is a disputable doctrine; for, let it be reiterated, graduate and undergraduate teaching are one. It has indeed already been disputed in the Memorandum on Medical Education in England, issued in the autumn of 1918 by the Board of Education. This Memorandum by Sir George Newman, the chief medical officer of the Board, tells impartially the good and the bad of the existing system, but for the present purpose it will be sufficient to notice that in it graduate instruction is reckoned as part of a complete medical curriculum. Some arrangement is demanded by which "all students shall receive special post-graduate training of one form or another before embarking on general practice, preferably in resident clinical appointments in general or special hospitals, Poor Law infirmaries, and dispensaries." This is the English ideal. With it is linked the injunction that some arrangement must be made by which "all practitioners shall find facilities available for periodically bringing their knowledge and practice up to date." Again we are told that post-graduate instruction must form an integral part of the curriculum of the ordinary medical school, with extension to special subjects in special schools. Finally we have a picture of an imperial graduate teaching scheme in England for graduates from the Dominions and foreign countries to serve as a teaching centre, to advise appropriate courses of study, and to facilitate their provision.

No institution ever reforms itself from within. Men are too loyal to each other, too closely bound by the bonds of interest and affection. If such a problem presented itself to the Army, it would be solved "from above" in four days. Sir John Goodwin, Sir Charles Burtchaell, or Major-General Foster, according to the area involved,

would detail an officer for the task. He would assign to each hospital the course for which it was most suitable, and he would see that it was carried on with joy. In this there is a hint for the Minister of Education, and for the London medical schools as well. What they will not do for themselves another may be found to do for them.

But lest something should be left unsaid, let it be affirmed that even in the idea "university" there is nothing sacrosanct. A university will not save unless it has the spirit and a willing mind. The good it does is done mainly by the prevention of evil. In its own turn it may develop the sectarianism of the school, make of three schools one, and in the professor lose the teacher.

Up to thirty years ago London was the medical centre to which all the world had resort. It lost that pre-eminence when the passion for teaching was destroyed by the appeal to mechanical experiment and the desire for uniformity. For more than thirty years earnest men have tortured themselves in the vain discovery of an alien method for the English mind. But the English mind would have none of it. Attend to the education of students, and the education of graduates will take care of itself—that was the final dogma of the Royal Commission on University Education.

London lost its pre-eminence in medicine because the breed of teachers died out, and the breed died out because it was not diversified and enriched by an allied strain. A medical school and hospital became a closed corporation, and men were promoted to teach merely because they were the oldest survivors of a system. There are in the world at any given moment very few teachers; for a teacher is an artist who transmutes, or mints, and sets in circulation, the ore which the scientist discovers, although in the rarest instances he himself may be artist and scientist too.

Teaching is the most precious of all gifts, and medicine without that aid perishes in all its branches. There is nothing more pitiable than the performance of a teacher who lacks the spirit. The performance is impious; the man is a charlatan; and the school where it is permitted is a mercenary school.

Upon those in London who are waiting, and upon those who are planning, it may be urged again that the Kingdom of Medicine also is within you. A school grows directly out of the mind of a man. Many years ago—nearly a hundred—there was a small school in a mean building in an obscure street of a small town. The root was there, transplanted from overseas like the Vine of Sibmah. At times it was gnawed to the earth, but it always grew again.

In the fullness of time there came a man. A man always does come in the fullness of time. He nourished and tended. By the winsomeness of his nature he won colleagues and students. A great school—great even amongst the schools of the world—was developed, and it remained great so long as it was resolved to lead and not to follow. Now, alas! it is without a Principal, and even the chairs of anatomy and physiology are unfilled. This man was Sir William Osler, in whose honour I am privileged to make this piece of words. From McGill he went to Philadelphia; to Baltimore; to Oxford. Wherever he went he left behind the perfect work of his hands, his mind, his heart.

Within the past four years something has happened. Whatever it was it did not happen by chance. It was due to the inexorable progress of events towards their appointed end. God does not pay every week, but at least He pays in full measure.

We have not yet begun to realize that the whole fabric of life is shaken and must come down to make way for the things that cannot for the present at least be shaken. We are like other blind Samsons, supporting for a little time upon our poor shoulders a fabric that is doomed, and groping about for materials of repair.

Such catastrophes are not new. Humanity will not dwell in the mountains where it belongs. It is always making excursions into the easy plains, and will not return until it is destroyed, leaving only a remnant to escape out of the overthrow.

These are no times for the making of formulas even in medicine. The best we can do is trust to the genius of the race. It will carry us through, as it has borne us down the tide of history these thousand years. It may well be that the day of the scientist even in medicine is over, seeing the calamity that science has brought upon us; and that men will forsake its pursuit, to frequent the shrine and consort with the saint; for magic, religion, and medicine have arisen out of the same protoplasm, as Sir William Osler himself has declared.

This essay was contributed to the volumes presented to Sir William Osler, Regius Professor of Medicine at Oxford, on July 11th, the eve of his seventieth birthday. The presentation was made by Sir Clifford Allbutt, Regius Professor of Physic at Cambridge and President of the British Medical Association, in the name of a large body of subscribers on both sides of the Atlantic.

RAPIDLY FATAL SPINAL CARIES.

BY

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I met with the cases of rapidly fatal spinal caries here described during the three years in which I was officer in charge, medical division of 30th General Hospital, B.E.F. The condition is rare, and I have been unable to find a record of similar cases in the literature to which I have access.

In each case the anamnesis was taken with the greatest care, and there was no recollection of anything to point to old caries, or to warrant an opinion as to when the existing illness began.

Case I.

Pte. J. W. M., aged 26, left Felixstowe, where he had been training for nine weeks, for France on April 23rd, 1917. He arrived in Calais three days later. On April 28th he felt some pains in his back, but carried on until April 30th, when he reported sick to his medical officer, and was given light duty and medicine. On the following day he again reported sick, as his legs had become weak. He was admitted to hospital on May 1st, 1917. The orderly officer found that he was unable to stand owing to paresis, but could feel pin-pricks in both legs. When I saw him at 6 p.m. there was complete flaccid paralysis of both legs. Knee and ankle jerks were absent, cremasteric and abdominal reflexes feeble, and the plantar reflexes flexor. There was loss of sensation to cotton-wool and pin-prick as high as the xiphisternum. There was absence of sensation to tuning-fork over both tibiae. The motor and sensory reflexes of both arms were normal. The pupils were equal, and reacted to light. By lumbar puncture a clear straw-coloured cerebro-spinal fluid was obtained which, when centrifugalized, yielded a deposit of erythrocytes and leucocytes in normal proportions.

On May 2nd the anaesthesia had extended up to within 2 in. of the umbilicus—that is, up to the area of the fifth thoracic nerve. The temperature ranged about 105° F. during the five days of his illness. Lumbar puncture was performed on four occasions, and each time the cerebro-spinal fluid was straw-coloured from blood haemolysis. In the later specimens polymorphonuclear leucocytes and a few micrococci were found.

The patient became delirious, unconscious, and died on May 5th.

Post-mortem Examination (by Major Anthonisz, R.A.M.C., Pathologist to the Hospital, Adviser in Pathology).

The body is of a powerful well-developed man showing no emaciation. The brain was examined and no evidence of disease was found.

On opening up the spinal canal a considerable amount of thick yellowish pus was found situated extradurally, extending up as far as the fourth dorsal and down as far as the tenth dorsal vertebra. On removal of the cord, blood-stained disintegrating material was found lying upon the posterior common ligament in the region of the ninth dorsal vertebra, and was proved to be connected with caries of this vertebra, the upper and lower parts of the bone being most affected. When examined from within the thorax the sides of the vertebra were also found to be eroded and carious, the right side being more affected than the left. The cord itself showed no evidence of disease macroscopically, and on opening the theca no pus was seen.

On opening the thorax both lungs were bound down by their bases to the diaphragm by old fibrous adhesions. The left lung was also adherent to the pericardium near its base, and to the chest wall over its apex and outer border. The latter adhesions were easily broken down and were apparently of recent origin. There was no effusion into the pleural cavity. Miliary tubercles were present in the upper and lower lobes of both lungs. These tubercles were grey in colour, and some of them much larger than a pin's head. They were situated under the pleura and scattered through the substance of the lung. The lungs were congested in parts, but there was no consolidation, cavitation, caseation, or other evidence of old tubercle.

No evidence of tubercle was found in the abdomen. The spleen was large but otherwise healthy. In smears and cultures from the pus Gram-positive staphylococci were seen.

CASE II.

P. A., air mechanic R.A.F., aged 28, was admitted to hospital on April 19th, 1918, complaining of pain in the left side of his chest and in his back. He stated that he had felt quite well up to two days before admission. Some impairment of resonance was found over the base of the left lung, and small crepitations were audible over the lower lobes of both lungs. It was noted that the physical signs in the lungs varied considerably from day to day. On April 25th at 11 a.m. he, for the first time, complained of stiffness in his legs. He had walked into the ward, and nothing had previously occurred to draw attention to his limbs. It was now found that there was great loss of power in both legs, the patient was delirious at times, and the skin over the lower limbs was insensitive to cotton-wool touch and pin-prick.

At 7.30 p.m. he was more sensible. Both lower limbs were now completely paralysed, and there was absence of sensation to cotton-wool and pin-prick up to the level of the ninth thoracic nerve. Tendon reflexes and abdominal reflex were absent. By lumbar puncture clear cerebro-spinal fluid was obtained, which was found to contain no cells when centrifugalized, except an occasional epithelial element. There was now retention of urine, and the bladder had to be emptied twice a day by catheter. The sputum was examined for tubercle bacilli, with negative result. The paralysis spread, and on April 29th the level of anaesthesia had reached the level of the sixth dorsal nerve area, and on May 1st to the area of the fourth dorsal. Lumbar puncture now yielded thick grumous pus, which passed with difficulty through the needle. A definite bulging, due apparently to a collection of pus, had appeared over the left side of the back. On May 3rd he was quite conscious, but the anaesthesia had extended up to the level of the third thoracic nerve, the abdomen was distended from flatus, and there was paralysis of the abdominal muscles. He became weaker and died on May 4th at 11 p.m., in the act of taking a drink.

Post-mortem Examination (by Captain Horsburgh, R.A.M.C., Pathologist to the Hospital).

The body is of a well-developed man. On incising the muscles of the back large quantities of thick pus escaped from the substance of the muscles. The spinal cord was exposed throughout its length, and was found to be in a bath of the same type of pus. When the theca was opened only a little pus was found round the cord itself. The consistence of the cord was soft and flabby, suggesting to the naked eye considerable degeneration. The brain was removed and the meninges carefully examined, but no sign of meningitis was found.

When the thorax was opened considerable adhesions were present on both sides of the chest, between the lungs and the chest wall. The left lung showed a tuberculous cavity about the size of a walnut, situated in the apex of the upper lobe, and a few smaller and more superficial caseous nodules. On the left side, where the lung was in relation to the fourth dorsal vertebra, it was covered with a thick layer of lymph. Underneath the lymph the lung showed no disease. The body of the fourth dorsal vertebra was stripped of its covering, and advanced caries of the body was revealed. Rarefaction and destruction of bone had taken place, and apparently the meningitis had resulted from the caries of the vertebra. In the abdomen a large calcareous tuberculous gland was present in the mesentery, otherwise nothing abnormal was found.

CASE III.

SPR. G. S., aged 38, was admitted to hospital on September 7th, 1918, complaining of pain in his back. He stated that he had suffered with pains in his back for several years, on account of which he had been in the habit of wearing a body belt. He was in the inland water transport, and gave a history of having received a blow on the back six months previously during a collision between two barges, but the injury was not severe enough to make him report sick. When admitted, he walked into the ward and made no complaint of any loss of power in his legs.

On September 10th, when asked to sit up in bed, he complained that his legs were weak, and he was unable to get up without assistance. Both legs were now completely paralysed. The knee jerks and ankle jerks and the abdominal reflexes were absent, the plantar reflexes flexor. There was loss of sensation to cotton-wool and pin-prick and to heat and cold to half way between the umbilicus and ensiform (eighth thoracic nerve area). There was also absence of bone vibration sense in both legs. There was retention of urine. Lumbar puncture yielded a cerebro-spinal fluid clear but tinged a straw colour. When it was centrifugalized no cells were found in the deposit. Rachicentesis was repeated on September 13th, and the same straw-coloured fluid was obtained, in which no cellular elements were found; but, on standing, it became solid from coagulation of the contained protein. The patient was quite clear mentally, and discussed intelligently whether his wife would be able to get out to France to see him before he died. In this he was unfortunately disappointed. On September 14th the zone of anaesthesia had ascended as high as the nipples, and his arms were becoming paretic. He died the following morning at 5 o'clock.

Post-mortem Examination (by Captain Horsburgh, Pathologist to the Hospital).

The body is of a well developed man, exhibiting no sign of injury or of emaciation. The brain was examined, and general congestion over both hemispheres was noted. The vessels entering the main fissures showed a series of small lymphoid nodules suggestive of tubercle. No tubercles were detected in the interpeduncular space.

When the spinal canal was opened a considerable quantity of purulent material was present along the whole length of the cord. The pus lay outside the dura, and when the theca was opened the cord itself appeared healthy. When the cord was removed it was seen that the seventh, eighth, and ninth dorsal vertebrae were in a state of carious necrosis with rarefaction. There was no spinal curvature.

When the thorax was opened a diffuse miliary tuberculosis was found in the lower lobe of the left lung. Old healed calcareous foci were present in the apices of the upper lobes of both lungs.

Each of these three men appeared robust and gave a good previous health report, with the exception that the second gave a history of pains in his back. The first patient was of quite exceptionally fine physique, and said he had always enjoyed excellent health.

The illness of the first lasted six days, that of the second fifteen days, that of the third nine days. The onset in each case was swift and without warning. The first case, to his surprise, found himself unable to walk to the medical hut, the other two found one day when in hospital that they had become powerless in their legs. The first case had six months' service, the second one year and five months', and the third two years and three months'. Cases of this description might become of considerable medico-legal importance in civil life, as had there been a history of a blow or a strain, it would be difficult to prove to the satisfaction of a jury that the acute disease of the spine was not due to the injury.

THE COMPARATIVE VALUE OF NOVARSENOBILLON BY THE INTRAVENOUS AND INTRAMUSCULAR METHODS;

WITH SOME NOTES ON THE TREATMENT AND PREVENTION OF SYPHILIS.

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THE following is a short account of cases of syphilis treated at New Bridge Street Military Hospital (V.D. Section), 2nd Western General Hospital, Manchester, during 1918 with novarsenobillon (novarsenobenzol) given intravenously and intramuscularly, with a comparison between the results and some conclusions which may be drawn therefrom with regard to the treatment and prevention of syphilis.

The course of novarsenobillon given in all cases was the same, pressure of work not allowing any discrimination, the course being the prescribed army course, namely:

Day of Treatment.	N.A.B. Intravenously.	or N.A.B. Intramuscularly.	with Hg Intramuscularly.
1st	0.45 gram	0.45 gram	gr. i
8th	0.45 ,,	0.45 ,,	gr. i
15th	0.45 ,,	0.6 ,,	gr. i
22nd	—	—	—
29th	0.6 gram	0.6 gram	gr. i
36th	0.6 ,,	0.6 ,,	gr. i
43rd	—	—	—
50th	0.6 gram	0.6 gram	gr. i
57th	0.75 ,,	0.6 ,,	gr. i

N.A.B. = Novarsenobillon.

If the "Wassermann" reaction was still positive, potassium iodide mixture (gr. xv ad 1 oz.) was given for a fortnight, followed by a course of two or three injections, 0.45, 0.6, 0.75 gram, at weekly intervals according to the strength of the reaction. One grain of Hg was given with each injection if well tolerated.

INTRAVENOUS OR INTRAMUSCULAR.

The intravenous injections were given direct from a 5 c.cm. Record syringe in concentrated form—namely, 0.45 gram in 5 c.cm. sterile distilled water; the same amount of water was used for 0.6 and 0.75 gram. The appearance of blood or a single air bubble (pressure of the venous blood forcing the air in the needle back into the syringe) was sufficient indication that the needle was in the vein. A hint to watch the site of injection and *not*, as is the natural tendency, the syringe whilst giving the injection may, perhaps, save trouble from a painful arm if the needle be not exactly in the vein or by some means moved out of it. No local trouble due to the concentration of the injection ever occurred.

The doses for intramuscular injection were first dissolved in 10 to 15 minims of sterile distilled water and then thoroughly shaken with creo-camph. cream (B. W. and Co.) melted at 15° C. and made up to 2 c.cm. Vigorous shaking is required, or a perfect emulsion will not be obtained, and a badly mixed emulsion will be more painful. The mixing was done directly in the sterile syringe. The injections were made:

1. *Subcutaneous*—into the loose tissue overlying the gluteus medius at a point three fingerbreadths from the crest of the ilium on a line drawn from the tuber ischii to a point on the crest of the ilium which is vertically above the trochanter.
2. *Intramuscular*—directly into the substance of the gluteus medius, lower down, but of course avoiding the middle line. I discarded the first method, after a thorough trial, as being more painful than the second.

Just previous to the injection morphine gr. ⅓ was given hypodermically in the back, the most convenient place.

The cases are arranged according to Harrison's classification:

1. Early Primary: *Spirochaeta pallida* found. "Wassermann" reaction negative before and after the first injection.
2. Medium Primary: *S. pallida* found. "Wassermann" reaction negative before but positive after first or second injection.
3. Late Primary: "Wassermann" reaction positive, but no secondary lesions.
4. Early Secondary. "Wassermann" reaction positive and commencing secondary lesions.
5. Later Secondary. "Wassermann" reaction positive or double positive with well marked secondary lesions.
6. Tertiary.

Of the 428 primary and secondary cases taken together, 260 were given intravenous injections and 168 were given intramuscular injections. Of the 83 tertiary cases, 66 were given intravenous injections and 17 were given intramuscular injections; 511 cases in all stages were treated. Other cases admitted to hospital—about an equal number—were given kharsivan intravenously.

Result of the "Wassermann" Test after Treatment.

Stage of Disease.	Method.	No. of Cases.	Actuals.		Percentages.	
			+	−	+	−
(1) Early and (2) medium primary	Intramuscular	26	0	26	0	100
	Intravenous	53	0	53	0	100
(3) Late primary ...	Intramuscular	37	2	35	5.5	94.6
	Intravenous	51	5	46	9.9	90.2
(4) Early secondary ...	Intramuscular	30	0	30	0	100
	Intravenous	42	4	38	9.6	90.5
(5) Later secondary ...	Intramuscular	75	7	68	9.4	90.7
	Intravenous	114	21	93	18.5	81.6
Summary ...	Intramuscular	168	9	159	5.35	95
	Intravenous	260	30	230	12.0	88.5
Combined total		428	39	389	9.2	90.9

Of the later secondary cases, 65 per cent. gave a strong positive "Wassermann" reaction; thus both methods had a severe test, for, as is well known, such cases are more difficult to influence from the point of view of the reaction than the earlier ones.

The above figures and percentages warrant three conclusions:

1. *Good Results with Both Methods.*

The good results of both methods; 389 negative "Wassermann" reactions in 428 cases treated thus give a percentage of 90.9 negative results.

2. *Better Results with the Intramuscular Method.*

The better results of the intramuscular treatment, due no doubt to its slower and more certain absorption with consequent slower excretion. The intramuscular cases had 95 per cent. negative reactions and the intravenous 88.5 per cent.

In the 9 intramuscular cases with positive reaction after treatment, 5 had histories of old sores, and it was probable that they were very late secondary or early tertiary cases. If these 5 "borderland" cases were left out and only the 4 remaining cases known to be true secondaries reckoned, the percentage of negative results in the intramuscular cases would be 97.6—very striking evidence of the efficiency of this method. In these last 4 cases an interval of four to six months elapsed between the development of the sore and the commencement of treatment.

The great objection to this method is the pain and stiffness complained of after the injection, and I am convinced that unless some device can be found to counteract these, it is a method that is impracticable for routine work in private practice or even in clinics. Patients will prefer the least pain possible; if they know, as they now do, that they can have treatment painlessly into the vein, they will have it, so that it is useless to advocate a method which, although giving better results, yet gives some inconvenience.

In no single case was it impossible to carry out the full course, but persuasion was needed in some cases. The men seemed quite tolerant to doses of 0.3 or 0.45 gram, complaints starting about the fifth injection. Some would go through a whole course with no swelling or pain, others would have a little swelling and some pain; others again would have marked pain, or swelling, or both. The reason for this is hard to find, as all injections were given with the same technique. Of course some men can stand pain better than others, and this may to a certain extent explain it, but as one cannot tell beforehand which cases are likely to have discomfort, the patient might not see you again after the first two or three injections—unless to revile you. Plenty of exercise and efficient daily massage have proved to be the best antidotes to severe local reaction. Latterly I have been using alternate intramuscular and intravenous injections; this method is much better tolerated, but is open to the objection that before the last intramuscular injection is absorbed the next intravenous may have to be given, and so toxic symptoms produced from overdose. I have never had any toxic results yet, but this must be considered a defect.

3. *Treatment should be Started at the Earliest Moment.*

With both methods, each one of the 79 early primary cases obtained a negative result (100 per cent.). In the 88 late primary, 81 obtained a negative result (92 per cent.). In the early secondary 68 out of 72 became negative (95 per cent.). These figures speak for themselves. It is in the late secondaries where the percentage of positive reactions becomes higher—161 negatives out of 189 cases (86 per cent.), as against 96 per cent. in the earlier classes. The difference, 10 per cent., is large.

The 100 per cent. negative results obtained condemns the practice, which I believe holds in some clinics and private work, of not examining for *S. pallida* in the sore, but waiting for a positive "Wassermann" reaction or the appearance of secondary lesions. At this hospital the sore was examined as soon as possible for the *S. pallida* with the dark ground. If not found, saline or sulphur dressings were applied, and the examination repeated in two days. If for any reason, such as non-retractable prepuce, a sore healed or had been treated with antiseptics, serum obtained by gland puncture was examined, or the prepuce slit (dorsal), and the sore exposed and examined. Blood tests were done at once, and if the case was at all suspicious, a provocative dose—0.45 gram—of novarsenobillon was given, and the "Wassermann" test four days later to obtain the Jarisch-Herxheimer reaction if possible.

Unfortunately, a large proportion of the men arrived too late to be treated as primary cases, many having been treated or supplied with ointment or lotions by chemists, herbalists, well meaning but misguided dressing orderlies, and a few, I regret to say, by their regimental medical officers contrary to Army Orders. Others concealed their disease until compelled by secondaries to report sick.

Tertiary or Congenital Cases.

In these cases the intravenous method gave somewhat better results, but as men had to be discharged as fit for duty as soon as possible, the course could not be prolonged sufficiently to try to obtain negative results. The reaction changed from strongly positive to either positive or negative after this single course in 36 out of 66, or over 50 per cent. The symptoms presented by these cases consisted of glossitis (many), leucoplakia, gummata of various regions, iritis, cutaneous syphilides (ulcerating, nodular, and rupial), laryngitis, myositis, periostitis, jaundice, and nerve syphilis. In all without exception lesions healed rapidly, and all symptoms disappeared or improved considerably. It was quite common for a tertiary case, after the third or fourth injection, voluntarily to declare how much better his health was since starting treatment. Potassium iodide was not given in conjunction with the novarsenobillon, but mercury intramuscularly was.

Tertiary or Congenital Cases.

Strength of "Wassermann."	Method.	No. of Cases.	Reaction Result after Treatment.
Strongly positive Wassermann	Intramuscular	11	6 strongly positive; 5 positive.
Positive Wassermann	Intramuscular	6	6 positive.
Strongly positive Wassermann	Intravenous	41	22 strongly positive; 19 positive.
Positive Wassermann	Intravenous	25	19 positive; 6 negative.

The great majority of these men had been given a course of mercury when the disease was contracted and some had been given isolated doses of "606."

Comparing the reactions after the two methods it appears that, excepting a case of severe dermatitis and another of jaundice, the intramuscular method appeared to have the greater number of side-effects, especially headache and vomiting. But I feel that these symptoms were produced by the hypodermic injection of morphine. Lieut.-Colonel Wilson, after one of his daily ward inspections, remarked to me it was curious the intramuscular cases were lying about on their beds and seemed drowsy, and suggested that it was probably due to the morphine. This was confirmed by after-experience—injections with and without the hypodermic. One man developed an abscess, which cleared up after several aspirations and did not need incision. Herpes occurred in one case on the lips and ears and was moderately severe; it was, no doubt, due to the injections. It may be of interest to note that when stationed at Rochester Row I gave two intramuscular injections of 0.45 gram of novarsenobillon to one man, and on each occasion within a few hours a crop of very severe herpes developed at the site of injection and rapidly spread over both buttocks. There was one case of severe dermatitis of the exfoliative type; it developed after the fifth injection suddenly without any warning. It cleared up completely with lead and calamine lotions, and later, soothing ointments. The one case of jaundice was treated on general principles and made a good recovery.

Chancroids.

Contrary to the experience of Mr. Mills of Rochester Row, sublimed sulphur has given disappointing results. This is not because it has not been applied properly, as I have taken care that it has been well applied. Of course *S. pallida* examinations can be done if this powder is used, and this is an advantage; but I have not found healing to be so quick as under eusol, black wash, iodoform, or mercury perchloride. In several very indolent chancroids which obstinately resisted all kinds of treatment I tried intramine intramuscularly, 2.5 c.cm. once a week; the sores improved greatly and finally healed. In the treatment of buboes I have found, as recommended by Colonel Harrison, early aspiration and the injection of tincture of iodine (1 in 20) much quicker than incision. This is true of a bubo which is actually pointing and over which the skin is red and shiny.

CAUSES OF DISSEMINATION OF SYPHILIS.

1. *Syphilis Contracted Abroad.*

Statistics of New Bridge Street Military Hospital show that the first great increase of this disease since the war broke out occurred at the end of 1915 and the early part of 1916. A consideration of the following facts will prove this and also that it was due in a large measure to infection brought into this country by troops from overseas.

For the first year of the war, 1914 to late 1915, a large camp near this hospital was used solely as a training centre for men who had not yet "gone out." During this period cases of primary and secondary syphilis were comparatively rare, only isolated cases occurring.

At the end of 1915 part of this camp was made into a dépôt for troops on leave or invalided home—from the East, Egypt and the Dardanelles principally. At this time and early in 1916 large drafts of men from these theatres of war arrived, and it was found that many were suffering from syphilis in various stages contracted abroad. Some still had a primary sore which was being or had been treated casually with caustics, etc., others had well-developed secondary lesions; both classes of cases were at the height of infection. For example, of 75 cases admitted to this hospital during one week early in 1916 at least 72 proved to be syphilis.

It was unavoidable in many cases that delay occurred—some few days at least—between their arrival in England and their admission to hospital, and the men on leave were of course at large. This was the time when the harm was done, for when admitted to hospital and questioned as to whether or not they had had sexual intercourse with girls in this interval of time the answer was almost invariably "Yes," and not with only one girl but several. Thus numbers of girls previously healthy may have become infected with syphilis. At the same time, early in 1916, large drafts were coming home on leave or invalided from France. These men and also those in training at home went with these infected girls only to become infected themselves. In this way a vicious circle was established terrible in its effects, for in those preconscription days, when patriotism ran high, promiscuous intercourse was rampant, girls influenced by patriotic motives indiscriminately giving their "all" to men in khaki. Unfortunately the men had no scruples in taking what was too freely given. It is reasonable to assume that what took place in this command in all probability occurred in others also.

To sum up: The fact that *before* the influx of infected troops from the East only a few cases of early syphilis occurred at this dépôt, and that immediately *after* this influx syphilis increased enormously—this, coupled with a knowledge of the type of case, must be considered a significant factor. The vicious circle is easily understood after inquiry into the source of infection and a little thought.

2. *Alcohol.*

Alcohol is undoubtedly a powerful cause of the spread of venereal disease, in that it is stimulating to the sexual organs, and has weakening effects on the inhibitory influences which ordinarily help to keep people under control. I have personally inquired into the history of these cases, and times without number the reply has been: "Oh, we got drinking together at a public-house and I got too much beer." A few "port wines" soon have effect on girls—too often the desired effect. "Treating" is undoubtedly a great evil, many more drinks being taken in consequence of this practice.

3. *Unskilled Treatment of Venereal Sores, Discharges, Sore Throats, etc.*

Unqualified persons look at a throat over the counter, having no idea whether it is simple tonsillitis, diphtheria, scarlet fever, or secondary syphilis, and treat it, thus enabling infection to be spread wholesale. Rashes are diagnosed as "the blood out of order," etc., and so it goes on. These people look very wise but unfortunately they are not so wise as they look.

4. *Amateur Prostitution.*

The large number of girls and young women, mostly of the ages 16 to 20, who swarm the streets of any large town at night. These are not professionals in the strict sense of the word, but "for the price of a drink," for which they ask from 2s. 6d. to 10s., will go with almost any man, especially if he is in khaki. I have asked many soldiers whether they paid anything or not, and a very usual fee was 2s. to 10s. These are very prolific carriers. The real professional who takes care of herself is comparatively innocuous.

PREVENTION.

Alcohol cannot be adequately dealt with, for total prohibition would never be tolerated by the British public, especially the working classes.

Much severer measures could and ought to be taken (nothing short of imprisonment will stop them) with druggists and herbalists who treat venereal disease. The recent Act making it illegal to treat venereal disease certainly had a steadying effect, but it is wearing off to some extent. In 1917 a soldier told me of one druggist with a business near a large camp who treated *hundreds* of cases of gonorrhoea a day. He paraded a microscope, down which he looked, and then sold his capsules at a preposterous price. All this should be stopped. Compulsory notification would only lead to concealment with spread of quackery and would be a failure.

Army statistics show that prophylactic treatment has decreased venereal disease in the army. Especially is this true of the American army, because if a man contracts venereal disease, beyond losing his pay during disablement, he is not punished if he has used the treatment provided after exposure. If he gets venereal disease and has not used preventive treatment according to regulations he is court-martialled and punished if convicted. This might do good in the British army. On the other hand, prophylactic treatment is by no means infallible and gives a false sense of security. Many men, and youths especially, are kept from indulging in promiscuous intercourse by one thing only—namely, the fear of catching venereal disease. Remove this fear and immorality will increase.

CONCLUSIONS.

The conclusions reached from the facts set out in this article are:

1. The excellent result of intramuscular novarsenobillon clinically; there is, therefore, scope for the discovery of a combination which will render it painless.
2. The best means for preventing the spread of venereal disease at the present time lies in early diagnosis and early treatment, and, as regards the army, periodical "short arm" inspections of troops, as at present carried out. This, of course, cannot be applied to the civil population.
3. Quackery—advertised "remedies" and counter prescribing—should be more rigorously dealt with in order to prevent serious delay in commencing proper treatment.

All the "Wassermann" tests for these cases were done by Major Dean, R.A.M.C.(T.F.), at the Manchester University Laboratory—a sufficient guarantee of their accuracy.

I beg to thank Lieut.-Colonel Wilson, Officer Commanding 2nd Western General Hospital, for kindly giving permission for the publication of this paper; to his energy and zeal, working under great disadvantages, is due in a great measure the success attained at New Bridge Street Military Hospital.

SOME EXPERIENCES OF DISORDERED ACTION OF THE HEART WITH THE MESOPOTAMIAN FORCE.

BY

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THE following experiences of the various types of cases which have passed under my own care, previously diagnosed as disordered action of the heart (D.A.H.), may not be without interest to many who have had charge of similar cases. The diagnosis—for so it is used—of "disordered action of the heart" includes anything from auricular fibrillation to isolated extrasystoles, and is no more final than such a term as "disease of the arteries," which includes anything from aneurysm or atheroma to malformations.

A clinical analysis of the observed cases of disordered action leads immediately to their division into (*a*) those with symptoms, (*b*) those without symptoms.

D.A.H. with Symptoms.

In the first group come the large number of cases with tachycardia. The rhythm is nearly always regular, and the condition frequently follows an acute illness, or there is a rheumatic history, but there may be no obvious association with any acute infection. The symptoms are mainly shortness of breath and palpitation or pain, and are the result of an approach to the exhaustion of the reserve force of the heart in response to effort. Men on field service suffering from this disability are able to do light camp duties, but are unfit for full military duties. A severe case, with a regular pulse rate of over 120 on frequent examinations, remained continuously on light camp duties for a period of six months, with the exception of three days. When, however, he was subsequently put on sentry duty he had to be readmitted to hospital and invalided, as the reserve force of his heart had been temporarily overtaxed. Drugs are of little avail, and, if the case is unaccompanied by other physical signs, rest in bed is unnecessary, and may even be harmful. Milder cases may be given three parades daily, not exceeding half an hour each, and when on examination once a week the pulse rate is under 100 after lying down for five minutes they may be advanced to a higher category involving parades of three-quarters of an hour each. An examination each week will decide on those fit for duty.

Though cases suspected of malingering are so rare as to be negligible, yet the symptoms present may be exaggerated by one man, whereas the next will lay very little stress on them. When, as on service, the soldier thinks his disposal depends much on his replies, it would be more than human nature to expect him to detail them without bias. These are the difficulties which many others must have experienced, but by fair treatment and careful examination, which are appreciated, a fairly accurate judgement may be made. By such methods many cases of tachycardia will be returned to their units without being invalided, and afterwards carry out full duties, even with a pulse rate above the normal.

The treatment of these cases lies in the removal of any infection, and later graduated work, keeping the symptoms from response to effort within the bounds of those experienced by a healthy man during heavy exertion, for then the reserve force will not be exceeded.

A rarer type of tachycardia giving rise to symptoms has a continuously irregular rhythm and is due to auricular fibrillation. The condition may be transient and determined by an acute infection. A case of bacillary dysentery came under my care with slight fever. On the third day of treatment in hospital the heart changed from a regular to a continuously irregular rhythm at 120. A few hours later it was still irregular and had risen to 160, as counted by the stethoscope, though the temperature had fallen to normal. He was given tincture of digitalis ♏xv every six hours, and after forty-eight hours his pulse dropped to 70 and became regular. After prolonged convalescence from the dysentery, he returned to his former duties and was still carrying them out twelve months later. The auricular fibrillation was due to old myocardial disease (as a child he had chorea for six months), but was determined probably by the absorption of toxins from the intestinal infection. The association of regular tachycardia with amoebic dysentery is not uncommon, and by some clinicians the emetine is stopped, as it is held that the emetine gives rise to the tachycardia. In my own cases the emetine was never withheld for this reason, and I have never regretted carrying out the full course—that is, 1 grain hypodermically daily for twelve days (repeated if necessary)—as the increased pulse rate is believed to be due to the absorption of toxins and drops as a result of the elimination of the infection and not as a result of the cessation of the administration of emetine. Emetine, moreover, is frequently administered without any effect on the pulse rate. Another man with auricular fibrillation, but without tachycardia, is known to have carried out his duties for eighteen months after he first came under my notice, and without any treatment, but the pulse rate, as shown by polygraphic records, always remained between 70 and 80. It is mentioned as being a rare type of auricular fibrillation, for almost all cases have a rapid rhythm unless controlled by digitalis. From his history it appeared that he had had this condition for over twenty years and yet was still leading a moderately active life.

Paroxysmal tachycardia, auricular flutter, and even heart-block, except in influenza, are rare in soldiers.

D.A.H. without Symptoms.

Patients diagnosed D.A.H. unaccompanied by symptoms are quite frequent, but may nearly always be discharged to full duty after a short period of training. The most common is the "youthful type of arrhythmia." In many cases these patients are admitted to hospital with a febrile illness, and during convalescence the heart is found to be irregular and the diagnosis is then changed to D.A.H. "by new disease supervening." The cases which exhibit this physiological irregularity most markedly have slower pulse rates than the normal 72. They are rapidly advanced to full duties and remain free from symptoms. The importance of an accurate diagnosis in these cases cannot be over-emphasized. With a diagnosis of D.A.H. they are regarded as "heart" cases, and I have received them after being evacuated through several hospitals and all the time as stretcher cases.

In addition to these cases, there is a further group which is diagnosed D.A.H., and is comprised of patients with extrasystoles. One of these patients gave a history of having been in a stationary hospital for a mild attack of dysentery. After treatment he was discharged to duty, where he was examined by his medical officer, who found an irregular rhythm, diagnosed D.A.H., and sent him back into hospital. He was evacuated down river some five hundred miles as a stretcher case. On examination, his pulse rate was 82, with frequent irregularities occurring in an otherwise regular rhythm. A polygraphic record showed these irregularities to be due to extrasystoles. When questioned as to symptoms, he maintained somewhat indignantly that he felt quite fit. He was allowed to get up at once, and on the second day after getting up, though he had been a bed patient for three weeks, he was sent for a five mile walk, and came back fresh and none the worse. In a few days he returned to his regiment and remained on duty for at least eight months.

Patients with extrasystoles are usually free from symptoms, and, when there are no other physical signs, may be allowed to lead a normal life. Occasionally the patient seeks advice when he discovers this irregularity by accident. He may be reassured and carry on without any break in his work.

Textbook descriptions of beri-beri frequently speak of the irregular pulse. Graphic records were taken at different periods of the earlier stages of this disease in twenty-five cases, and in no case was any arrhythmia found apart from the "youthful type." This was disappointing, as the investigation was undertaken at a time when the shade temperature varied on the different days between 110° and 122°, and assistance was required to divert the streams of perspiration trickling down the face.

Conclusion.

While these experiences relate only to military cases attention is drawn to the fact that the only respect in which they differ from cases seen in civil practice is in the proportion falling under each group. There is an increase in the tachycardias with regular rhythm, whereas the severer forms of disordered action indicating serious disease are comparatively rare, and there is no group peculiar to the soldier's heart as a separate clinical entity.

PERITHELIOMA SIMULATING PANCREATIC CYST.

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The following interesting condition is recorded to add one further type of pseudo-cyst of the pancreas, so closely simulating a true cyst of that organ that it was only at the necropsy and by tissue section that the true pathological condition was determined.

For a month before admission to hospital the patient, a man aged 29, complained of discomfort after food, with recurring bilious attacks. He noticed a tumour in the upper part of the abdomen in the middle line, which increased in size, gradually at first but more rapidly in the last fortnight. He lost weight steadily and his general condition began to fall off.

He came to hospital on August 6th, 1918, as a walking case; shortly after admission he vomited about two pints of stomach contents, suggesting gastric stasis, rather than intestinal obstruction. The vomiting persisted in spite of lavage and rest.

A large, rounded, semi-solid mass, easily movable laterally, but less so in the vertical direction, filled the whole of the epigastric and part of each hypochondriac region.

There was dullness over the mass, tympanicity above and below, and slight dullness in the flanks. No definite thrill was elicited. The liver dullness was normal. The stool after an enema did not suggest chronic parenchymatous pancreatitis. Cammidge's test was not carried out.

The diagnosis was made of a pancreatic cyst between the stomach and colon, causing stomach stasis, and probably intestinal stasis, by kinking one or other viscus. As the patient's condition was fair, operative measures were immediately resorted to.

Operation.

A paramedian incision was made on the right side over the mass, through the thinned abdominal wall. The mass was packed off and a little free fluid cleared from the abdomen.

A large semi-cystic tumour was exposed with the layers of the gastro-colic omentum stretched over it. The stomach was pushed high up with the pylorus kinked, and the colon was thrust down by the neoplasm.

The layers of the gastro-colic omentum were divided, and the cyst proper brought into view. Free blood in the interior aroused the suspicion of retroperitoneal sarcoma, and this was made certain on opening the mass and evacuating the contents, which consisted of about two pints of semi-solid "brain-like" tissue freely mixed with organized blood clot. The lesser sac was not involved, the foramen of Winslow was patent, and the pancreas apparently normal. Ablation of the mass was impossible, and as shock was very marked, rapid marsupialization was completed and the sac drained and packed. The abdomen was closed in the usual manner.

The patient's general condition improved for forty-eight hours, during which time large quantities of sero-sanguineous fluid was discharged from the remains of the growth. This oozing continued, and the general condition gradually failed. During the last six hours vomiting of a toxaemic rather than an obstructive type was a marked feature. He died six days after operation.

Post-mortem examination of the abdominal organs only was permitted. The liver, spleen, and kidneys were normal. The suprarenals, carefully examined in section and by the naked eye, were normal, as were the stomach and intestines. The pancreas was normal macroscopically and microscopically. Metastasis was noted at one point in the mesentery.

The remains of the growth consisted of a small solid mass in the retroperitoneal connective tissue, but attached to no organ, lying across the spine and above the pancreas. The rest was a mere shell, having been depleted of its contents at operation.

The growth had no definite capsule, except some feeble granulation tissue. The mass and its contents showed numerous blood spaces lined by large malignant cells radially arranged and spreading in solid masses from the blood spaces. There was much degeneration at the points distant from the spaces. The malignant cells are large with deeply staining cytoplasm; nuclei large, pale, and showing an active mitosis.

The growth is a perithelioma or an encephaloid carcinoma with degeneration at the points remote from the blood spaces.

AVOIDANCE OF RELAPSE IN GONORRHOEA.

BY
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There have long been signs of medical dissatisfaction with the older methods of dealing with gonorrhoea. I believe the dominant weakness of nearly all existing methods of treatment is the long time required before the last gonococcus is overcome. In spite of careful and conscientious irrigations or injections relapses are common, and the disappointed patient often realizes that the discharge has returned within a few days (and usually less than fourteen days) after cessation of such treatment. At the present time the methods of irrigation or injection are the most widely used for obvious reasons. Taking irrigation first, its operation suggests the ability to wash out from a tube the morbid material it contains. No doubt some of the gonococci, and their enemies the pus cells, are removed at each irrigation in this way. But it is clear that it is only slightly effective. If it were possible for the incoming stream of the liquid used in lavage to enter the very numerous mucous crypts and recesses of the urethra, and if this liquid, having entered, were able to balloon these recesses and to wash out their contained gonococci, then the disease would obviously be overcome by one or two irrigations. If repeated often enough each day recovery must be ascribed to an overtaking of the gonococcal populations faster than they can multiply. It is difficult to recognize a germicidal effect in the process, or to see a compensation in the method for the dilution and loss of the invaluable

antibodies to gonococci which nature provides and distributes by the blood and lymph to the infected areas. Injections are less dramatic in appearance, but do not seem to remove the antibodies to the same degree as irrigations. By either method, however, when the visible discharge has become quite small or non-existent, the operator usually and naturally has little confidence that discharge will not reappear as soon as the treatment is withheld. This being so, these processes of lavage or injection are continued for a relatively long time, apparently in the hope of wearing down the vitality of the gonococcus. This continued washing and stretching of the main urethral channel often induces weakness of its vitality. Presently, though the gonococcus may have disappeared, the secondary bacteria of various kinds (which were acquired either at the contraction of the disease as a mixed infection, or in the subsequent operations of treatment) are able to maintain a suppuration of a less acute form than the gonococci, but of a chronic type, constituting a true gleet.

In acute gonorrhoea which recovers promptly there is no gleet stage, and its occurrence must be viewed as evidence of weakening or over-irritation of the delicate urethral membrane during treatment. So that we are in the presence of certain facts—namely, that a percentage of cases of acute gonorrhoea recover after treatment by irrigations or injections continued for a period which varies from one to three or more months. That relapse is undesirably common, and gleet is a frequent sequel after the gonococci have been overcome. This gleet is never a trifling matter, and sometimes causes the victim chronic misery. Yet what treatment can be given in place of these methods? If we had a process which could empty these gonococcal-laden mucous crypts by the gentlest squeezing from their blind ends and so express their contents into the urethral lumen (as by indenting the fingers of a glove), it would be almost ideal. For then one or two streams coming down the urethra, as by the natural lavage of voiding urine, would wash out in the best possible manner the virulent gonococcal populations, and the disease would be rapidly overcome.

No such method is available, but in electrolysis we have a fairly near imitation of such an effect. The only lavage I have ever employed is the patient's own urinary voidance, which visibly removes all mucopus and gonococci removable at that moment by the natural act of micturition. By insertion of a perforated catheter and a suitably directed electric current mucous tides are set up within the gland spaces, in which gonococci and leucocytes migrate towards the catheter and seek the anode. These masses aggregate at the instrument's apertures and are visible on its withdrawal. There is nothing so striking in this treatment of acute gonorrhoea as the harvest of gonococci and pus plugs containing gonococci which one removes on withdrawing the electric catheter. Still more is obtained in the subsequent urinary voidance which removes similar material drawn into the urethra, but which did not adhere to the catheter or was detached during its withdrawal. After six years' experience of this method I am satisfied that it attacks gonorrhoea and produces a cure with the minimum of urethral irritation, and that the process does constitute a true assistance to the patient's resistance to the disease. I have already called attention to the remarkable fact of patients' immunity from rheumatism and joint troubles, a fact which I cannot yet explain theoretically.

Coming now to relapse, the main subject of this article, I have been gradually impressed with the confidence gained that the discharge will not return after ceasing the treatment. This, of course, means that the patient's resistance has not been lowered by the method of treatment, and the ultimate victory over the last gonococcus is of course due to the vitality of his leucocytes and the gonococcus antitoxin elaborated for the purpose. As these antibodies have not been irrigated away, and no chemical or other irritation has been induced, electrolysis can only have assisted recovery by a timely removal of the gonococcal populations, associated with a subtle influence on the gonococcus toxin. This latter is, I think, to be inferred as helping to explain the immunity from rheumatism. Nevertheless the process is of course not yet perfect. Although an average of three and a half weeks' treatment is required for an acute case, yet I believe that we should be able presently to overcome the disease in half or even one-third of that time. When acute gonorrhoea can be cured within seven days of its onset I think medical practitioners will seek the possession of facilities for electrolysis, and will discard older and less efficient methods for a system which is more physiological. Since publication of the process and subsequent monographs on the subject I have realized that numerous colleagues expected something as easy and simple as tipping a tabloid into a tumber and turning on a switch. Instead of something simpler and quicker than injections or irrigations, electrolysis involves much more work and time and trouble for the operator, who naturally obtains much better results. Like others who have endeavoured to leave the common rut of treatment, I have been amused and grieved at the fearful things done to patients with gonorrhoea in the name of electrolysis both in France and this country. Yet it is inevitable that the old and less efficient eventually gives place to the new, but not until the full realization of benefits which make the extra work well worth while.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE DOSE OF COLCHICUM IN GOUT.

MOST authorities agree that colchicum is a specific in gout. Dr. Sidney Martin, F.R.S., I think, teaches that "the only drug of any use in gout is colchicum, and the only preparation of colchicum of any use is the wine." My experience leads me to suggest that the tincture is also useful if given in suitable doses. But the most effective preparation of colchicum is the acetic extract.

I suggest that the *B.P.* dose of the extract—namely, ¼ to 1 grain—is altogether too small to be of any use, and that, since the acetic extract (*B.P.* 1885) is no longer official, the value of the extract has been lost sight of. The average effective dose of the acetic extract is not ¼ to 1 grain, but 2 to 6 grains. This, so far as I am aware, has proved a perfectly safe dose in the following prescription:

℞ P. opii ... ... gr. j
P. ipecac. ... ... gr. j
P. cambog. ... ... gr. ij
P. aloes ... ... gr. iv
Ext. colch. acet. ... ... gr. viij
Misce; fiat pil., div. in 4. Mitte 12 or 24.
Dose: One pill three times a day, or two at night and one in the morning.

I have known many instances in which three pills (and by persons accustomed to take them even four) have been taken for a dose (= 6 and 8 grains of the extract) without any noticeable result other than that desired. But the average dose above mentioned rarely, if ever, fails to relieve rapidly and completely all the symptoms, especially in acute cases.

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"BRACHIAL" NEURITIS AND ITS TREATMENT.

THE able and interesting article by Dr. R. T. Williamson in the BRITISH MEDICAL JOURNAL of June 7th, 1919, p. 699, leads me to say that, judging by my own experience, the term "neuritis" has been eagerly seized on by the general public, and the idea seems widespread that neuritis is very difficult to cure. During the past twenty years I have seen many cases of neuritis, and found the majority of them curable, at any rate for a time, many for years. In a very large percentage I have found more or less arthritis. Three cases of primary brachial neuritis with very similar symptoms have recently come under my notice:

1. A woman, aged 41, who for over a year had assisted in nursing a rheumatoid patient, and had worked hard in other ways.

2. Housewife, aged 43, who for a long time has done all the work of a small house, including washing and ironing. This latter form of work is very trying to the right arm, and has been a considerable factor in producing neuritis in other cases.

3. Charwoman, aged 56, emaciated and in poor general health; nothing definite was found to account for the neuritis beyond the strain of her work.

In treating these cases I used the galvano-cautery, commencing with six or eight "dots," close to the vertebrae (upper dorsal), and repeating the applications every other day, increasing the number at each sitting until from twenty to thirty were given at a time.

In all three cases great relief was experienced after four treatments. Patients (1) and (2) went on with their work and did not use a sling; patient (3) gave up work. (1) and (3) took a few doses of an opium and hyoscyamus mixture at first. All three cases are now free from pain and much improved in health.

The following brief notes of cases not primary may be of interest:

(*a*) Man. Two falls on to left shoulder, from a bicycle, within a fortnight. Very severe neuritis followed. No treatment relieved the pain during the first three months. I then applied a large blister near the lower cervical and upper dorsal vertebrae keeping the raw surface open for ten days with savin ointment. Great relief was experienced within a few days. Investigation showed sarcoma of the head of the humerus.

(*b*) Man. Sent for treatment as an obstinate case of sciatica resisting ordinary treatment. Rectal examination revealed carcinoma.

(*c*) Man. Brachial neuritis. Arm useless for seven months. Investigation showed arthritis of the shoulder and also of other joints. Pain relieved and arm restored to usefulness in ten weeks by means of minute multiple acupuncture and counter-irritants designed to produce small pustules.

I have used the remedies mentioned for many years, and as the result of careful observation I have come to the conclusion they are both diagnostic and curative. I claim to be able to produce valuable evidence in this way in cases of suspected malingering.

Bournemouth. W. J. MIDELTON.

ADRENALIN IN BLACKWATER FEVER.

THE use of adrenalin chloride in blackwater fever was first suggested, I believe, by Dr. W. S. Barnes, retired Government medical officer of British Guiana. The drug is given in the dose of 20 minims every four hours. After the first three or four doses the urine clears up remarkably. No quinine is given. Iron tonics without quinine are prescribed during convalescence. The action of adrenalin in this instance cannot be explained as due to vasomotor constriction. In my opinion the explanation is probably the balancing of a suprarenal insufficiency, which insufficiency is perhaps the cause of haemoglobinuria in some cases of malarial infection.

J. A. ROBERTSON, L.R.C.P. and S.Ed.,
Government Medical Officer.

Plantation "Mara," Berbice River, British Guiana.

MOTHER'S EYESIGHT *v.* CHILD'S LIFE.

THE following may interest more from the benefit derived from the rapidity of action than from any rarity in the case, which is obviously a common one.

On July 12th, 1919, Mrs. —, aged 35, one child aged 11 and one subsequent miscarriage, who had engaged me for her confinement in September, sent for me. She complained of dimness of vision. There was considerable oedema of the legs and vulva and difficulty in walking. There was no external inflammation of the eyes. She saw with right eye barely $\frac{6}{60}$; with left, fingers only. There was albumin in the urine. On ophthalmoscopic examination I found flame-shaped haemorrhages.

On July 16th I motored the patient into Newcastle to see the consulting oculist (Mr. J. D. Wardale), who diagnosed albuminuric retinitis, with considerable oedema of the maculae, especially the left. On July 18th, with the consent of the patient and husband, I induced premature labour by means of inserting a bougie between the uterus and membranes and leaving it *in situ*. At 10 a.m. on July 19th, after slight pains during the night, the os was patulous. At 6 p.m. on the same day I was able to introduce two fingers, and at 8 p.m. I judged there was sufficient dilatation to allow of forceps; chloroform was given, and at 9 p.m. a 7-months child was delivered (which lived four hours). The mother made a good recovery, and her sight is improving.

The mother of the patient told me the following: A pregnant woman in her neighbourhood began to lose her sight. The doctor told her that she might get it back when the child was born. She was allowed to go on to full term, at which time she was totally blind, and has remained so for the last five years. The child is living.

Shotley Bridge. A. G. C. POCOCK, M.B.Durh.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

AT the meeting of the Oxford and Reading Branch of the British Medical Association held at the Radcliffe Infirmary, Oxford, on July 1st, the following cases were demonstrated in the out-patient department: Two cases of erythraemia (polycythaemia), by Sir WILLIAM OSLER; one was a woman of about 50, with dyspnoea and enlarged spleen and red count 6 to 7 millions; the splenic notch could be both felt and seen. Dr. COLLIER showed a case of severe puerperal septicaemia (now convalescent). Mr. ANGLIN WHITELOCKE showed (1) epithelioma of tongue which had survived partial excision five years ago, but showed glandular recurrence; (2) a woman recovering from severe haemorrhage into the peritoneum from ectopic gestation. Dr. MALLAM showed (1) severe Hebra's prurigo in a male aged 30, and (2) Von Recklinghausen's disease in a man who was developing (? propter hoc) spastic paraplegia; this man gave a positive Wassermann reaction. A large fluctuating abdominal tumour which had puzzled many was then shown. Sir WILLIAM OSLER suggested a catheter, and the tumour of several months' duration was promptly cured. The President's comments on the cases were highly instructive; his wit and geniality were keenly appreciated, and helped to quicken the feeling of brotherhood between the members. Papers were then delivered as follows in the Board Room: The Radcliffe Infirmary extension at Headington, by the Rev. G. P. CRONSHAW. The principles of treatment of the psycho-neuroses, by Dr. MCDOUGALL. Some points on closing traumatic openings in the intestine, by Colonel A. P. DODDS-PARKER. Two rare forms of cancer, by Mr. HASTINGS GILFORD. Some notes on the operative treatment of fractures, by Mr. W. B. SECRETAN. The function of a venereal clinic, with illustrative cases, by Major A. G. GIBSON. All were well illustrated and extremely interesting. A paper by Colonel Collier on systolic murmurs in young adults was held over until the next meeting.

Rebiebus.

THE RELIGION OF A DOCTOR.

A PHILOSOPHIC writer of forty years ago observes, in one of his paradoxical dissections of human frailty, that an honest God is the noblest work of Man.

To the medical man more than to any other the difficulty of honest achievement is very great. With his earliest professional training he is brought face to face with the mysteries of life and death, and all through his professional career they meet him at every turn. As the natural end of his own life approaches, his thoughts will of necessity turn from the known to the unknown. He has learnt that many of the higher qualities of mind and thought may be brought to degradation by physical changes in the brain. He has seen many a "noble mind o'erthrown," many a promising career ruined, and many a valuable life cut short by forces quite uncontrollable by human agency. At one period his religious views may, indeed, tend to be materialistic, but at another he will have to admit the existence of some moving power, the force of which becomes more and more fully recognized as years advance.

As a writer on the subject of healthy old age Dr. BODLEY SCOTT has already given to the profession a charming account of the physical means by which that desirable goal may be reached. He has now put forward a small work dealing with *The Religion of a Doctor*,[1] in which he discusses the relation of the medical man to the mysteries of human life and to his conception of the possible future. Three hundred years ago the author of the first *Religio Medici* was "content to understand a mystery without a rigid definition." The writer of to-day deprecates anything savouring of positive assertion. "The old conception of the Jewish god—an anthropomorphic deity, full of human moods, of anger and jealousies—is no longer possible to the reverent mind. The God of absolute

[1] *The Religion of a Doctor.* By T. Bodley Scott. London: T. Fisher Unwin, Ltd. 1919. (Cr. 8vo, pp. 93. 5s. net.)

knowledge, of absolute power and righteousness, of an infinite unchanging purpose, working through aeons of steady evolution, can alone satisfy the thinking soul." In the course of the main chapter of his book Dr. Scott traces the evolution of Christianity, showing how much of it is founded on unstable bases, and in the concluding section he puts forward a strong plea for the reorganization of religious beliefs in a spirit of unity. The little book may be commended to the thoughtful attention, not only of medical but of clerical and lay readers alike.

PSYCHO-ANALYSIS.

IN her book on *Psycho-Analysis and its Place in Life*,[2] Miss M. K. BRADBY does not approach the subject from a therapeutic or medical standpoint. She is not a doctor; educational and social work are her particular interests, and she is probably correct in holding that the results of psycho-analytic researches will ultimately find their most important applications in the sphere of education. It must be recognized that modern investigations into the underlying motives of human conduct which have been stimulated by the writings of Freud are not only concerned with the treatment of the neuroses, but serve also to furnish a much wider understanding of the many problems of life, both social and individual. This is shown in the contents of this volume, in which art, religion, ethics, biography, as well as individual psychology, are studied from a psycho-analytic point of view.

The subject is not approached from the conventional standpoint. Miss Bradby gives no rigid adherence to any particular school of thought. The book is in no sense a mere exposition of current psycho-analytic teaching or theories; it is, on the contrary, a frank expression of her own individual views, and it might perhaps almost be said to be an assimilation of psycho-analytic principles into her own philosophy of life. She states in the preface her opinion that psycho-analysts have overlooked important factors in the unconscious.

> They are too much inclined to interpret the higher in terms of the lower, to explain the advanced by a reference to the rudimentary. They have found man's repressed appetites and the conflict between conventional morality and sexual desire, but they have not yet devoted equal attention to his higher interests which are also to be found in the unconscious mind—interests which man does not share with the animals—to the longing after knowledge and beauty and power for their own sakes, and the desire for moral goodness apart from any particular system of morality. Since man became aware of his own aims these things have been recognized as amongst the ruling passions of humanity, and they are not sexuality, important though sexuality may be.

This view is developed throughout the book. Miss Bradby would seem to suggest the existence of a fundamental, innate moral impulse in man which may be subject to imperfect development or repression, after the same manner as the sexual impulse, and she finds evidence of this in analyses of dreams and in other directions. This instinct is distinguished from that morality which varies according to the standards of the social group. Such an opinion, of course, conflicts with the most generally accepted psychological view; moreover, it would hardly find acceptance amongst psycho-analysts, at any rate, amongst the Freudian school. The theme is suggestive and full of interest, but it would seem that Miss Bradby in much of her treatment of the subject tends to overstep the scientific boundaries of psycho-analysis as such, and to introduce ethical and moral considerations and views as to human progress which, valuable and important as they may be, are not the actual concern of psychological investigation. As a science, psychology is not concerned with the goodness or badness of impulses, beliefs, and opinions; such ethical terms imply a subjective criticism on the part of the observer according to his particular philosophy in life; psychology is the purely objective study of such phenomena in the same way as the physical sciences are concerned with observations upon other series of phenomena without reference to their ethical value. We find such statements as:

> In the unconscious are spiritual values . . . each has God in him as well as Devil.
>
> The distinctly animal gives way in order to express the distinctly human, the wicked or diabolical goes in order to express the divine.
>
> . . . regard the supreme purpose of the universe as the creation and development of moral goodness. Man is by nature moral.

By introducing terms and conceptions which, however true they may be, belong to another "subject of discourse," she detracts somewhat from the purely scientific value of her book. This much must be said, however: Miss Bradby in her analyses is impressed with the necessity and value of the subjective or synthetic method of interpretation (Jung) as opposed to the causal, objective method of Freud. The latter is concerned with the origin of the dream, the former with its aim, meaning, or function. Jung's method is avowedly not strictly scientific, and the difference between the two methods of investigation is apparently fundamental. Which school of thought leads to the greater understanding of the conflicts, strivings, and struggles of human beings it is hardly the province of the reviewer to suggest. Perhaps, however, it would be more correct to confine the term psycho-analysis to the Freudian school.

Apart from such criticism, however, the book is of interest and value. Possibly, as Dr. Constance Long states in her preface, "the author's very individual outlook on life" does "enhance the stimulating qualities of the work." Miss Bradby furnishes some excellent descriptions of psycho-analytic theories, she approaches the whole subject with much breadth of mind, she introduces helpful material from modern anthropological researches, and she is thoroughly enthusiastic as to the value of psycho-analytic research in the development of the individual and of humanity. Incidentally her work should do much to dispel prejudices with regard to the subject which some of its advocates have aroused.

CONSTIPATION.

THE second edition of Dr. A. F. HURST's work on *Constipation and Allied Intestinal Disorders*,[3] was almost completed in 1914, when the war began, but it has received some additions since then, such as a special chapter on constipation in soldiers. It is a new book rather than a second edition of the original issue in 1909, as it has been largely rewritten, contains 80 more pages, 22 more illustrations, and costs half as much again. It is divided into seven parts, dealing with the physiology of the intestinal movements and defaecation, methods of examination, the causes, symptoms, treatment of constipation, and constipation in infants and in soldiers. The most important sections of the volume are those on the causes, symptoms, and treatment, each of them occupying more than a hundred pages. The physiological chapter is largely based on *x*-ray examination of the alimentary canal, and contains evidence of much personal research.

Constipation is defined as a condition in which none of the residue of a meal, taken eight hours after defaecation, is excreted within forty hours, and is divided into three main forms: (*a*) Colic, due to delay in the passage of food through this part of the intestinal tract; (*b*) in which the final evacuation from the pelvic colon is not adequately performed though there is no delay in the remainder of the large bowel—the word "dyschezia," employed by the late Robert Barnes for painful defaecation, is regarded as preferable to Strauss's term "proctogenic constipation"; (*c*) due to deficiency in the quantity of faeces caused either by insufficient food residues or by excessive digestion of food by the "greedy" colon, a condition either congenital or acquired. Few diseases have not at one time or another been ascribed to constipation, and though constipation may directly cause numerous symptoms the mechanism of their production is in many instances still uncertain. The popular theory of intestinal intoxication, so forcibly advocated by Sir Arbuthnot Lane, is submitted to critical analysis. Dr. Hurst considers that some symptoms are due to mechanical pressure exerted on various structures by faecal accumulations, that others are purely reflex, and that it is impossible to separate the nervous symptoms of constipation that result from intestinal intoxication from those that are reflex in origin. The relation between intestinal adhesions and constipation is also carefully discussed, and the evidence that any

[2] *Psycho-Analysis and its Place in Life.* By M. K. Bradby. London: Henry Frowde, and Hodder and Stoughton. 1919. (Demy 8vo, pp. xi + 266; illustrated. 8s. 6d. net.)

[3] *Constipation and Allied Intestinal Disorders.* By A. F. Hurst, M.A., M.D.Oxon., F.R.C.P. Second edition. London: H. Frowde, and Hodder and Stoughton. 1919. (Med. 8vo, pp. xx + 440; 56 figures. 16s. net.)

connexion exists between Lane's ileal kink and constipation is regarded as inconclusive. Further, the author argues that duodenal ulcer is never secondary to intestinal stasis, the radiographic evidence supporting Lane's view being due to misinterpretation of the observed phenomena; in more than 60 cases of uncomplicated duodenal ulcer Dr. Hurst has only once seen a dilated duodenum and a duodenal kink, but he admits that in rare instances of visceroptosis true duodenal stasis, attended by dilatation and writhing movements, is due to compression exerted by the superior mesenteric artery, owing to traction from the dropped small intestine.

Mutch's contention that diabetes is due to an ascending pancreatic infection from the duodenum, which in its turn depends on intestinal stasis, does not meet with any support from Dr. Hurst, and though a high or a low blood pressure may in different circumstances probably result from constipation, doubt is thrown on the view that the low blood pressure is due to beta-iminazolylethylamine produced from histidin by bacteria in the ileum.

The operative treatment of constipation is discussed with a very open mind; of Lane's implantation of the ileum into the pelvic colon it is said that many cases have done very well, others have shown little or no improvement, and a few have succumbed to the operation. Indications for the various forms of operative interference are stated and the drawbacks explained. The condition for which colectomy is most definitely indicated is said to be the dilated colon due to pelvi-rectal achalazia (Hirschsprung's disease) or congenital dilatation of the colon and some of the rare cases in which this condition is acquired in later life. The reader of this thoughtful and valuable work will find that he is naturally drawn to compare it with Sir Arbuthnot Lane's *Operative Treatment of Chronic Intestinal Stasis*, published last year, so as to see both sides of the shield.

The ordinary lines of treatment are fully described in a thoroughly practical fashion; the sections on diet and drugs, which many may regard as well worn and familiar subjects, should not therefore be skipped, for they contain many new hints and some interesting gleanings from the past. Speaking of intestinal lavage, he points out that in the days when three, four, or more pints of water were injected at a very high pressure mucomembranous colitis was produced almost as often as it was cured by the treatment, and he then details the method which he finds empties the colon most efficiently without causing spasm or increasing the secretion of mucus. Dr. Hurst's volume recalls the broad-minded wisdom of the late Sir James Goodhart, to whom it was intended to be dedicated as a token of gratitude and admiration. It can be confidently recommended as a storehouse of both scientific and practical information on perhaps the commonest disorder that flesh is heir to.

PRACTICAL PHYSIOLOGICAL CHEMISTRY.

MR. SYDNEY COLE'S *Practical Physiological Chemistry*[4] has been much enlarged and greatly improved in its fifth edition. It gives a most excellent account of the various tests, and may be accepted as a reliable guide. The book has one outstanding merit: it is that Mr. Cole has not assumed that his students had a sound knowledge of chemistry, particularly of physical chemistry. His general explanations are clear and to the point. He has divided the book into fourteen chapters, dealing with the properties of solutions, proteins, carbohydrates, fats, digestion, blood, urine, etc., in turn. As a chapter his first, on the properties of solutions, in which he deals with physical chemistry, is particularly good. He devotes a special chapter to the preparation and properties of certain amino acids, and gives very clear and explicit instructions. The book is well illustrated and its get-up good.

There are, however, several points which may be criticized. Professor Hopkins, in his introduction, draws attention to the fact that the teaching of practical biochemistry is beset with many difficulties, not the least being the lack of the stimulus of the actual experiment on animals. He therefore justifies the inclusion in a practical book of "some judicious reference to theory and to the actual significance of results." But is there any justification for the blending of theoretical and practical work? No doubt such a procedure could be defended in dealing with a cut-and-dry subject; but with a living and actively progressive subject like biochemistry the inclusion of brief theoretical considerations is of doubtful advantage, and not, perhaps, altogether in accord with the broad principles of science. No doubt an annotated work would be of considerable value to teachers possessing a knowledge of the field covered and capable of assessing the value of statements, but unless the writer of the book be a person of the most judicial and neutral mind short statements of theory are apt to be not sufficiently impartial. Many of the problems dealt with are not quite so clear cut and finished as the author's statements might lead one to suppose. *Obiter dicta* endorsed by Professor Hopkins run the risk of being passed on as considered judgements.

Further, Mr. Cole does not seem to appreciate the nature of professional medical life, and in this he errs with many other "scientific" writers holding medical qualifications who ought to know better. Mr. Cole, in his introduction, says "Progress in medical science is largely dependent on the statistical method. I am convinced that a considerable body of trained medical men making accurate analyses of the abundant clinical material that must inevitably come their way will advance our knowledge much more rapidly than a few isolated specialists." This may be true, but how is the average medical man to find the facilities and the time? Some practitioners have practices which would permit of it without doubt, but the great body of the profession are literally overworked. That scientific research is possible is shown by the magnificent work of general practitioners like Dobie, McMunn, and Mackenzie, but scientific research which involves a great deal of highly skilled continuous work like observations on metabolism could only be carried out under the most exceptional circumstances. It is the fashion these days to express the hope that the work will be of value to medical practitioners, forgetting the fact that the writer has been living in an atmosphere of scientific thought, whereas the practitioner equipped with the medical scientific education of his first two or three student years, has not dwelt in a scientific atmosphere, and is not familiar with the vocabulary—we had almost written the slang—of modern research. The medical practitioner whose duty it is to treat patients cannot be so much interested in the steps by which scientific research is achieved as in the practical outcome; this is inevitable.

NOTES ON BOOKS.

PROFESSOR RICCA'S essay on inhibitory war lesions and hysteria[5] gives a fairly brief account of his views on an obscure area in the neurology of functional and psychogenic lesions due to trauma in the recent war. His "inhibitory war lesions" are approximately identical with Babinski's "reflex or physiopathic syndromes"; in some of them he distinguishes a psychogenic rather than a hysterical basis, as though they were utilitarian rather than involuntary in origin, while others he sets down as automatic. The subject is treated throughout on what may be termed psychological lines; the last chapter links up the inhibitory theory with hysteria and Brissaud's sinistrosis. The book is one for psychologists.

Physical Education in Relation to School Life,[6] by REGINALD E. ROPER, is a short volume of ideals as to what constitutes physical education from more than one point of view. Mr. Roper is insistent that the minimum time needed each week for Swedish gymnastics is three lessons each of half an hour's clear work, and insists on the improvement in general health, in discipline, and in the general outlook on life gained by properly organized, co-ordinated, and intelligent use of the muscles. Like teachers in other branches of education, Mr. Roper deplores the large classes with which masters and mistresses have to cope, and strongly deprecates the general acceptance of the common statement that girls are necessarily less muscularly strong than boys; girls are handicapped not only by dress and convention, but by not being taught the exercises which have been found by experience to be

[4] *Practical Physiological Chemistry*. By Sydney W. Cole, M.A. Fifth edition. Cambridge: Heffer and Sons, Ltd. 1919. (Demy 8vo, pp. xvi + 401; 55 figures. 15s. net.)

[5] *Forme Inibitorie di Guerra e Isterismo*. By Professor Dott. Silvio Ricca. Milano: Società Editrice Libraria. 1919. (Post 8vo, pp. 174; 33 figures. L. 8.)

[6] *Physical Education in Relation to School Life*. By R. E. Roper, M.A.M.Edin. London: George Allen and Unwin, Ltd. (Cr. 8vo, pp. 116; 12 plates. 2s. 6d. net.)

of the most use to boys. Mr. Roper is certainly an enthusiast in his teaching, and his book gives many hints to those concerned in the education and development of growing girls and boys.

LUCAS and STEVENS'S *First Lines in Dispensing*,[7] now in its second edition, is an excellent little work for the use of students, pharmacists, and other people who have to learn how to compound medicine of all sorts. It gives a clear account of the first principles of the dispenser's art, authoritative and well written, and the text is well illustrated.

Professor HAWK'S textbook of *Practical Physiological Chemistry*,[8] first published in 1907, has now reached its sixth edition; it gives a very thorough account of the subject, suited in every way to the advanced student of physiology. It is clearly written, well illustrated, and packed with facts and directions for tests and analyses of every kind of physiological product. The magnification of the pictures of microscopic crystals should be stated under each. The book has clearly been a great success in America, and may be recommended to the attention of physiologists in this country.

[7] ***First Lines in Dispensing.*** By E. W. Lucas, C.B E., F.I.C., F.C.S., and H. B. Stevens, F.I.C., F.C.S. Second edition. London: J. and A. Churchill. 1919. (Cr. 8vo, pp. 182; 97 figures. 6s. net.)

[8] ***Practical Physiological Chemistry.*** By Philip B. Hawk, M.S., Ph.D., Professor of Physiological Chemistry and Toxicology in the Jefferson Medical College of Philadelphia. Sixth edition, revised and enlarged. London: J. and A. Churchill. 1919. (Med. 8vo, pp. xiv + 661; 185 figures, 6 coloured plates. 21s. net.)

APPLIANCES AND PREPARATIONS.

Radiography of the Teeth.

THE British Thomson-Houston Company, 77, Upper Thames Street, E.C.4, is now able to supply, in addition to the other types, a new special dental type of Coolidge radiator *x*-ray tube. The chief features of this tube are: (1) Its size, the bulb is 3¾ inches in diameter; (2) the cathode arm is at right angles to the anode arm; (3) the cathode circuit is grounded, and so there is only one high tension wire; (4) it can be used at a very short distance from the patient without risk of shock; (5) it is designed to operate at a fixed voltage and current, this means that the factor of time is the only variable in making radiographs of the teeth; (6) it can be supplied with a special lead-glass shield, which fits closely to the walls of the tube and gives adequate protection; (7) it can be used with either an induction coil or a high tension transformer. This tube is made for the purpose of making radiographs of the teeth and jaw, and is not intended for general radiographic work. With a little practice good radiographs of the teeth should be produced almost automatically.

An Indestructible Element for the Galvanoset.

The Medical Supply Association, Limited, has made an improvement in the conducting elements of the Galvanoset water resistance apparatus. The four conducting elements were made of carbon, but the positive element was liable to disintegration, causing discoloration of the water, and necessitating frequent change of the water and replacing of the element. This is now entirely overcome by using an element for the positive pole made of platinum, which does not disintegrate when conveying the current through water.

A Suture Holder.

Mr. C. Hamilton Whiteford (Plymouth) has designed, and Messrs. Allen and Hanburys have made, a simple suture holder. In preparing for operation, the sutures are threaded loosely in the long axis of a piece of bandage, preferably flannel, which is two inches longer than the instrument tray. The bandage is weighted at each end by a spring clip. The clips, bandage, and sutures are rolled up and boiled. At the operation the bandage is unrolled and placed across the instrument tray, with the clips hanging over the ends of the tray. The bandage, being stretched by the weight of the clips, forms a taut strap, from which each suture can be drawn with ease. Each clip weighs about four ounces, and will fit any bandage whose width does not exceed four inches. By varying the length of the bandage the suture holder can be used with trays of any dimension. The holder can also be used for needles.

Talcum Powder.

We have received from Messrs. Robartes Ltd., Dyer's Buildings, Holborn Bars, E.C.1, a sample of "diadem talcum powder," a dusting powder which is claimed to be especially suitable for nursery use and for application after shaving, the bath, etc. Our examination shows it to contain a large proportion of talc, together with smaller amounts of lycopodium and boric acid. The preparation is agreeably perfumed, and in our opinion is well adapted to the purposes mentioned.

THE TUBERCULOUS EX-SERVICE MAN.

PROVISION OF RESIDENTIAL TREATMENT.

THE report recently issued of the Interdepartmental Committee on Tuberculosis appointed to consider the immediate practical steps which should be taken for the provision of residential treatment for the discharged soldier and sailor suffering from pulmonary tuberculosis and for their reintroduction into employment, especially on the land,* has, we are glad to note, received a good deal of attention from the daily press.

The Deputy Chairman, Sir Montague Barlow, M.P., presided over all the meetings after the first, and among the original members were Dr. F. J. H. Coutts, Lieut.-Colonel Nathan Raw, C.M.G., M.D., M.P., Sir Leslie Mackenzie, M.D., and Dr. J. Fletcher Porter; Dr. E. Coey Bigger, Dr. J. Smith Whitaker and Dr. W. J. Maguire were added after the Committee had commenced its work. The report is signed by all the members except Dr. Maguire. The Committee heard twenty-four witnesses and considered a number of documents. The evidence is not published in full by way of question and answer, but in minutes appended to the report, a commendable innovation.

The whole subject is covered from many points of view, and it cannot fail to be noted that substantial results have been already achieved in Scotland, Wales, and Ireland in response to local effort. But the number of beds available for all cases of tuberculosis is very far short of the requirement, and at the present time only about 4,000 ex-service men are receiving residential treatment out of an estimated total of 35,000. This disproportion is not due to financial causes, adequate provision being now made for treatment for so long as may be found necessary. In the Astor report of 1912 it was laid down that there should be one sanatorium bed and one hospital bed for every 5,000 inhabitants, but this proportion is now recognized as insufficient, especially in industrial areas. In Liverpool, for instance, the city council aims at the provision of one bed for every 700 of the population. It has occurred to many people that the now unoccupied army hutments might be at once utilized for the benefit of tuberculous soldiers, situated, as so many of them are, in carefully selected sites as regards sanitation, supplies, and communications. Local authorities are advised in the report to adapt such hutments, wherever possible, as a temporary measure, pending the provision of more permanent quarters. They should be able to secure them from the Government without charge.

Great Britain.

When provision of beds for treatment has been made the need for after-care falls to be considered, and the consensus of opinion has fixed upon the training colony as the most effective means of completing the restoration of convalescent cases, to be followed in due course by the establishment of permanent village settlements.

The success achieved at Papworth, Hairmyres, Walkington, and elsewhere has already stimulated similar schemes to establish colonies for limited periods of training, the colonists submitting themselves to medical control, and consenting to separation from home life. It is now proposed that village settlements should be encouraged in which the tuberculous ex-service man should be able to continue the trade that he has learnt in the colony, with good cottage accommodation for wife and family, amid sanitary surroundings. The scheme thus outlined is warmly advocated by the Committee, and supported by a recommendation for an Exchequer grant for the provision of sanatoriums, which shall be at least double the amount hitherto allotted; financial provision for training colonies to the amount of £250,000, and £1,000,000 for permanent village settlements is also recommended. By these means it is hoped that the case of the ex-soldier will be adequately met. To what extent, it has to be asked, will the man himself be willing to adopt a system which, while not compulsory, must to some extent be disciplinary? This difficulty has frequently been encountered. Much money has already been expended in the endeavour to deal satisfactorily with the impatient patient, who enters with enthusiasm upon the new line of treatment only to tire of it if immediate results are not forthcoming. He returns home and is a risk to others until he succumbs to the disease himself. The problem of the adequate segregation of the actively

* H.M. Stationery Office. [Cmd. 317.] (Fcap., pp. 45. Price 6d.)

infective case is still unsolved, and it would appear that nothing short of punitive legislation will suffice to check the free distribution of bacilli to the community. In some States in America punitive measures are actually in force, and the neglect of precautions by the consumptive may be met by fine or detention in special institutions. The Committee does not propose any such repressive measures, but hopes that some good may be done by means of small homes, as at present provided in Norway, or in enlarged sanatoriums.

The question of reinstating tuberculous men in employment, especially on the land, is left for local authorities to deal with, and lines for their guidance have not been laid down. It will be seen that the Committee has generously interpreted the call for prompt and adequate assistance for ex-service men suffering from tuberculosis, and its recommendations, if loyally carried out, may be expected to react in time to come for the benefit of civilian sufferers also and for the community at large.

Ireland.

Dr. Maguire, who presents a minority report, states that while he does not doubt that the recommendations are the most suitable possible for the circumstances of Great Britain, and might perhaps with advantage be applied to Ireland, the conditions in that country are radically different. The Irish population is mainly rural, and the death rate from tuberculosis in Ireland (2.23 per 1,000) much higher than in England and Wales (1.62 per 1,000). In Ireland there are no county medical officers of health, and the housing conditions in many parts of urban and rural areas are most unsatisfactory. In Ireland 13 sanatoriums containing 1,282 beds have been approved for the purposes of the National Insurance Acts. Owing to the lack of suitable residential accommodation for advanced cases many are treated in sanatoriums for early cases. The governing bodies of sanatoriums have given the greatest assistance in providing for ex-service men, even in some instances at the expense of ordinary civilian applicants. At the same time Dr. Maguire considers that the existing accommodation in sanatoriums may, at the present rate of admission, be considered sufficient for the needs of persons suffering from tuberculosis in its early stages. No difficulty has been experienced in obtaining accommodation for surgical cases, the number of institutions approved being 60, containing 4,041 beds. For advanced cases 17 institutions—consisting of 1 sanatorium, 2 tuberculosis dispensaries, 1 tuberculosis hospital, 5 homes, and 8 general hospitals—have been approved; the accommodation is insufficient.

Poor Law institutions cannot be used under the Insurance Acts, and ex-service patients should not be treated in such institutions, but in view of the present urgent need of economy and the high cost of building Dr. Maguire considers that the Public Health Council to be constituted in Ireland under the Ministry of Health Act should immediately consider whether Poor Law hospitals could be brought into line with modern ideas, bearing in mind that the care of the ex-service men is only part of a much larger problem. It would, he thinks, be possible immediately to afford accommodation to ex-service men in the advanced stage without much additional expense at existing approved institutions if Exchequer grants were made available. Every possible facility should be given to local authorities for the immediate completion of arrangements for increased accommodation suspended in consequence of the war. The provision of additional accommodation for advanced cases of tuberculosis among ex-service men, thus setting free the entire accommodation of sanatoriums for the treatment of early cases, is in his opinion the most urgent phase of the problem in Ireland.

THE circumstances attending an outbreak of plague on the P. and O. liner *Nankin* are remarkable. The ship left London with a clean bill of health on June 26th, but arrived at Alexandria with seven cases of plague on board, as would appear, among the crew. The most probable explanation seems to be that infected rats got aboard either in the port of London or that of Marseilles. The decline in the mortality from plague in India has recently been very great; in the year ended June it was only 0.28 per 1,000 as compared with 4.51 in 1904–5. It has not been so low since 1898–99, when it was 0.42, and 1908–9, when it was 0.43.

THE *Nordiskt Medicinskt Arkiv*, founded in 1869 by Axel Key, are henceforth to be known by the titles *Acta Medica Scandinavica* and *Acta Chirurgica Scandinavica*. To give these periodicals an international character it is proposed to publish communications in any of the principal European languages.

THE TEACHING OF OBSTETRICS AND GYNAECOLOGY.

LAST March the Council of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine appointed a committee "to inquire into the teaching of obstetrics and gynaecology to medical students and graduates in London." The Committee consisted of Drs. T. W. Eden (Chairman), Henry Russell Andrews, G. Blacker, John S. Fairbairn, F. J. McCann, and Gordon Ley (Secretary). A report signed by all the members of the Committee has now been issued; it is as follows:

REPORT.

Under their terms of reference the work of the Committee falls into two parts: (1) The present methods of teaching midwifery and gynaecology to medical students and graduates in London; (2) the changes which are required to make it more efficient.

The Committee desire to point out the great importance of the subjects they were called upon to examine, not only to the medical profession, but through it to the women of the country and to the community in general. The provision of doctors more highly trained in practical midwifery work, and the provision of adequate hospital facilities for dealing with serious complications of pregnancy, labour, and the lying-in period, are matters which are intimately related to one another, and are of equal importance to the public health. A large increase in the present hospital accommodation for midwifery cases in London is as urgently needed as an improvement in the training of medical students. And, further, if by suitable arrangements better training in the management of infants could be associated with midwifery training, a great advance would be made in dealing with the difficult problem presented by the high rate of infant mortality.

Four medical schools were directly represented on the Committee, and in order to obtain the necessary information from all the teaching hospitals, a series of questions covering all branches of teaching were drafted and sent to each hospital. The answers were kindly supplied by the obstetric physicians, and formed the groundwork upon which the following account of the present methods is based. [A list of the hospitals in alphabetical order, and an epitome of the answers obtained under each inquiry is given in appendices.]

A.—THE PRESENT SYSTEM: MIDWIFERY.

Systematic Teaching.

Systematic lectures are given in all the hospitals by the obstetric physicians, usually in the summer term—that is, once a year only; the number of lectures varies from twenty to forty. A "practical midwifery" course, which includes operative demonstrations on the dummy, is also given either by the obstetric physician or by the tutor. In the latter case it is combined with the tutorial class. In most hospitals the regulations provide that students attend the systematic lectures and the practical midwifery course before being allowed to attend cases of labour. The Dean of the school may, and sometimes does, suspend this rule.

The tutorial or revision classes are held each term by the tutor, and are attended mainly by the students then preparing for the examination in midwifery and gynaecology. Attendance at the systematic and practical midwifery courses is compulsory under the regulations of the examining bodies. Attendance at the tutorial classes is optional, but in practice all students do attend.

Clinical Instruction in Normal and Abnormal Pregnancy.

Systematic instruction is given in the gynaecological wards and out-patients' departments of all hospitals on the diagnosis and management of pregnancy, the clinical material consisting of such women as present themselves from one reason or another during pregnancy. Pregnant women who desire to be attended at their own homes are usually required to present themselves at the hospital for examination beforehand. They are seen, usually, by an obstetric physician or by the tutor, and any students who care to attend are present and are allowed to examine the patients; the attendance of students is, however, not, as a rule, compulsory, and in practice sufficient use is not made of this department for purposes of teaching. Except in the case of hospitals with a midwifery ward, this is all

the provision which is made for instruction in normal and abnormal pregnancy.

Clinical Instruction in the Conduct of Labour.

In four hospitals—namely, Royal Free, St. Bartholomew's, St. Thomas's, and University College—midwifery wards are established for the instruction of medical students; others—namely, Guy's, London, and Middlesex—have a midwifery ward which is used chiefly for training midwives; for the purposes of this report these are of no value. The remaining hospitals have no midwifery wards at all at the present time. In every hospital serious complications of labour can be admitted to the gynaecological beds, where they come under the charge of the obstetric physicians; in many cases, however, the registrar actually deals with them.

In the case of *hospitals with no midwifery ward*, the training of students in the actual conduct of labour, normal and abnormal, is practically non-existent. In order to attend the twenty cases required by the regulations of the examining bodies the student is attached to the maternity district of his hospital; previous to this he has attended the lectures mentioned above, and in addition in some hospitals—for example, London, St. Bartholomew's, and St. George's—special demonstrations are given by the tutor or the resident obstetric officer to each batch of students before going on the district. As a rule, however, the students of hospitals with no midwifery ward have never seen women in labour before going on the district to attend them.

Every hospital has a regulation that the student is to be accompanied to the first case or the first two cases by the resident obstetric officer, but this regulation cannot in all instances be carried out, and the student not infrequently goes to his first case alone. It is assumed that he needs no assistance after the first two cases in conducting a normal labour, but he is under instructions to report at once to the resident obstetric officer any abnormal conditions he may discover. His ability to detect abnormal conditions is, however, very small from lack of training. At one hospital (Charing Cross) a trained midwife in the service of the hospital is also present at every labour, and gives the student assistance; as a rule the student conducts normal cases without any assistance, even in respect of the toilet of the infant. Abnormal conditions are frequently dealt with by the resident obstetric officer in the patient's home; practically all hospitals have a rule that serious complications, such as *ante-partum* haemorrhage or eclampsia, should be at once transferred to the hospital, where they are admitted under the supervision, usually indirect, however, of the obstetric physicians. There the student is able to take part in their management, and to see any obstetric operations which are required.

The student continues to attend his district cases during the first seven to ten days of the puerperium, under the same instructions to report any abnormal conditions which may arise regarding either the mother or the child. It must be recollected that unless he has previously attended the midwifery ward, the student has received no practical instruction whatever in the management of infants; as a rule, his work is done without any systematic supervision during the puerperium.

In some hospitals the number of cases available in the district is insufficient to allow twenty for each student; a certain number of students from these hospitals are sent to the lying-in hospitals, where they can be "signed up" for twenty cases in fourteen days (Queen Charlotte's), twenty-one days (York Road), or fourteen days (City of London). In some instances the student goes for a fortnight to the Lying-in Hospital, and then serves for a fortnight on the district of his own hospital.

The character of the training given in the *lying-in hospitals* is as follows: These institutions in London are primarily concerned with the training of midwives; the fees of the pupil midwives form an important source of income to the hospital, and their presence enables the trained nursing staff to be reduced to a minimum, which forms an important economy in expenditure. The regulations of the Central Midwives Board require that the cases they attend as pupils shall not be shared with others; consequently the lying-in hospitals must reserve for the training of their midwives an adequate number of deliveries per annum. Only the surplus is available for training medical students and graduates. From these conditions it results that very few deliveries in these hospitals are actually conducted by medical students, at the most four or five each; they are, however, allowed to be present at all, which, in the case of Queen Charlotte's Hospital, may be as many as eighty a month, but they are present as spectators only. The great majority of their twenty cases are "attended" in this way. The students are in residence in the hospital, but they do not go to cases in the district at all. Where the student, after a short time at the lying-in hospital, proceeds to the district of his own hospital, he has had the advantage of frequently observing the process of labour conducted by others, and has gleaned some experience of its management. There is no provision for the instruction of medical students in normal labour at the lying-in hospitals, practically all normal labours being supervised by the resident midwives. A certain amount of instruction in abnormal labour and in the puerperium is given them by the visiting physicians. The students see a certain number of forceps deliveries, and any major obstetric operations that may take place during their attendance.

In the case of the *hospitals having a midwifery ward for students* the conditions require separate notice. The number of beds in these midwifery wards varies from 8 at University College Hospital to 24 in the Royal Free Hospital; the number of cases admitted per annum varies from 180 in University College Hospital to 550 to 600 in St. Thomas's; the number of cases admitted per student trained varies from 3 in St. Bartholomew's to 11 to 12 in St. Thomas's. The number of cases actually delivered by medical students in the ward is limited, in all but St. Thomas's, by the fact that, not being in residence in or near the hospital, they only attend the deliveries which occur in the daytime, except that, at St. Bartholomew's, one student is always in residence and can attend night deliveries. There is a small number of pupil midwives at these hospitals (eight to ten per annum). In the midwifery ward the students are given practical clinical demonstrations on any cases of normal or abnormal pregnancy which may be available, on the course and management of normal labour and the puerperium, on the management of infants, and on any cases of complex labour which occur during the hours of their attendance. The instruction is given in part by the visiting physicians, but mainly by the registrar or the resident officers. The period of attendance in the midwifery ward is four weeks, and the student is not permitted to begin attending cases in the district until he has conducted a certain number of deliveries in the ward and received a certain amount of practical instruction. After this he attends his district cases alone, as do the students of the other hospitals.

Maternity and Infant Welfare Centres.

These centres, where they exist, provide opportunities for instruction in the care of the nursing mother, in infant feeding, and in the general management of the infant during the first year of life. The midwifery department of a hospital ceases to be concerned with the average normal case in ten to fourteen days after delivery; the work of these centres is a continuation of the work of the obstetrician, and its utility from the point of view of preventive medicine is generally recognized as being very great. It is of the first importance that these centres should be made use of in training students in continuation of their midwifery work, yet only five hospitals—namely, Charing Cross, Royal Free, St. Mary's, St. Thomas's, and University College—have a Maternity and Infant Welfare Centre in connexion with them. Others are soon to be started.

B.—The Defects of the Present Methods of Teaching Midwifery.

The *systematic* instruction given is, generally speaking, satisfactory, and is in the hands of the obstetric physicians. The *practical* instruction leaves very much to be desired, and in some respects merits emphatic condemnation. We desire, however, to acknowledge the great improvement which has followed the establishment of midwifery wards for the instruction of medical students. This change is of recent date and is at present operating in only four hospitals; but its great usefulness is apparent and will receive general acknowledgement. The case of the hospital having no midwifery ward for students is the least satisfactory;

the additional experience which may be obtained when the student also goes to a lying-in hospital for a short time is most unsatisfactory. The following considerations must be borne in mind:

1. *The Hospital without a Students' Midwifery Ward.*

The grave defects of this system may be set out as follows:

(*a*) Students learn to deliver women only under conditions in which surgical cleanliness is extremely difficult to secure. Under a satisfactory system the same principle should be followed as obtains in general surgery—namely, they should be taught upon the highest plane of efficiency which it is possible to attain, not upon the lowest which can be reached without unjustifiable risk to life. A not unfair analogy would be for surgeons to teach students the technique of abdominal operations under conditions where they would be deprived of adequate light, ventilation, and the means of cleanliness. Unless difficult cases occur requiring transfer to hospital, the student has no opportunity whatever of seeing women delivered under hospital conditions.

(*b*) Students who are taught thus, under makeshift conditions, will absorb the impression that careful and exact precautionary measures are unnecessary. The effect of such an impression upon their future work in private practice can only be disastrous, and may be related directly to the incidence of puerperal fever in the country as a whole.

(*c*) The practical clinical instruction which students receive in the diagnosis and conduct of normal labour is of so perfunctory a character that it may not unfairly be said that they are left to pick it up for themselves, with the sole aid of the lectures they have attended beforehand and the books they may have read. In a considerable proportion of cases the child is born before or immediately after the student's arrival, as the women like to delay sending for the "doctor" until the last moment.

(*d*) Unless complications occur in his district cases, he will never see the obstetric physicians dealing with labour at all; and even when patients are transferred to the hospital, the control of the obstetric physician is often indirect, and is exerted through the registrar or resident obstetric officer, who actually deal with the cases themselves after asking his advice. The student, therefore, learns extremely little of abnormal labour; he may not see a forceps delivery during his month, and in occasional instances may go up for his final examination without having seen this procedure except upon the dummy.

(*e*) It follows from (*d*) that the student learning clinical midwifery is completely out of touch with his senior teachers; he does not see them actually engaged in the work he is trying to learn, and never has the advantage of their supervision and guidance.

(*f*) That a student should conduct deliveries in the district is undoubtedly useful, for the single-handed conduct of cases of labour may be assumed to develop his sense of responsibility—a valuable aspect of his training as a doctor. But this should come *after* and not *before* he has been made acquainted with the nature of his task. In the case of the student of average ability, to thrust responsibility upon him before he has been taught his work will be more likely to hinder than to help him in learning.

(*g*) Attendance upon twenty to thirty cases of midwifery ought to afford invaluable opportunities of instruction and experience in the management of the normal puerperium, of minor disorders of the puerperium, and of infant feeding. Under the district system these opportunities are completely wasted, owing to the total lack of systematic supervision of the students when at work.

2. *The Lying-in Hospitals.*

The great defect here is that no direct provision is made for the *instruction* of medical students at these hospitals. They attend the practice of the hospital in order to be "signed up," but no one is responsible for teaching them. The visiting physicians pay regular visits to the lying-in wards, where they are followed by a mixed class of graduates, students, and pupil midwives, to whom they give what instruction is possible in the circumstances, upon the puerperium and the management of infants. They rarely, if ever, conduct a case of normal labour, and are seldom in the labour wards except for difficult cases which require their presence. "Waiting cases" which present abnormal conditions are usually seen by the visiting physicians, who may demonstrate them to the students; but under the rules of the hospital the visiting physicians do not undertake any responsibility for the instruction of medical students. It has been already stated that the student does not actually deliver all the patients he is certified to have "attended." The number he actually delivers is variable and depends upon the goodwill of the resident obstetric officer and the resident midwives, either of whom may supervise his work. Instruction of students is, however, no part of their duty to the hospital, and they are under no obligation to take pains in giving it. Some students may be allowed by the resident obstetric officer to conduct a forceps delivery under supervision; but this depends entirely upon the goodwill of the resident obstetric officer himself.

3. *The Hospital with a Students' Midwifery Ward.*

This system undoubtedly marks a great advance in the training of students, but certain defects are inherent in it. Only four hospitals have such a ward in actual working; its size varies from eight to twenty-four beds. The greater number of cases admitted are normal cases. Students are attached to the ward, in all cases exclusively, for a period of four weeks. They come into close touch with the obstetric physicians, who demonstrate cases to them and give general clinical instruction on their regular visiting days. The women are delivered by the resident obstetric officer or the resident sister midwife, under both of whom the students work, and by whom they are personally instructed in the conduct of normal labour. The students are not in residence except in the case of St. Thomas's, and, as a rule, only the day-time labours are seen by them. It must be pointed out, however, that the visiting physicians take little or no part in teaching the conduct of normal labour, that the more serious cases of abnormal labour are not all seen by them, and even when conducted under their supervision they are not necessarily delivered by them.

The *small size* of the midwifery ward is one of its chief defects. It suffices to allow each student to conduct a small number of normal deliveries before commencing his work on the district; this number could with advantage be much increased. The more serious abnormal cases from the hospital district are sent in to the midwifery ward, so that Royal Free has a total of 530 cases, St. Bartholomew's a total of 1,500 cases, St. Thomas's a total of 1,500 to 1,600 cases, and University College a total of 1,700 to 1,800 cases per annum, from which abnormal cases are drawn. In this respect they all fall behind the largest lying-in hospital, Queen Charlotte's, which has an annual total of 3,500 to 4,000 cases delivered in the wards and on the district. It is impossible for these wards to deal with large numbers of abnormal cases, and there is no doubt that the students' opportunities of seeing difficult labour dealt with are inadequate.

The *non-continuous* character of the student's attendance, in all but one hospital, is a grave disadvantage. A large proportion of all deliveries occur at night, when the student is not there to see them. Complicated cases may occur at any time, and from their nature the great majority must be dealt with promptly. As a rule they cannot be left over until the hours of the student's attendance come round, and thus invaluable opportunities of instruction are lost. To tell the student all about a difficult case the day after it has been dealt with is not a satisfactory method of clinical instruction. The time the student devotes to the midwifery ward (four weeks) is quite inadequate, if his attendance is only in the day-time, and even that may be broken up by other duties.

The bulk of the practical teaching in the midwifery wards is given by the registrar and the resident obstetric officer, particularly in regard to the conduct of normal labour; whereas the student ought to be taught both normal and abnormal conditions by senior obstetric officers of greater experience and higher standing than the average registrar. The major part of the student's clinical teaching in *surgery* is given him by surgeons and assistant surgeons, and this is universally regarded as being necessary. It is equally necessary that he should be taught his clinical midwifery by men of similar standing. In the nature of midwifery work this would involve the presence in resident control of the midwifery ward of senior officers, who would be always available, would

personally supervise the work of the labour wards, and would themselves deal with abnormal cases at whatever hour they might arise.

C.—THE PRESENT SYSTEM: GYNAECOLOGY.

A certain small number of systematic lectures in gynaecology are given by the obstetric physicians either as a part of the course of midwifery or separately. As a rule, the student clerks for one to two months in the gynaecological department; although the regulations of the majority of the examining bodies require him to spend three months at clinical gynaecology the hospitals do not all enforce it. In some instances his gynaecological clerking is done in the same month as he attends his midwifery cases on the district. The number of gynaecological beds in the various hospitals varies from eleven at Westminster to thirty-four at London, the average being about twenty. In the wards the clerk is taught by the registrar or the resident obstetric officer to take the history of a gynaecological case, and is usually taken over the physical examination by the same officer. He follows the obstetric physician in his rounds, and is present at the operations which take place during his clerkship. His attendance in the wards may be much restricted if he is at the same time doing his midwifery cases on the district. In the wards he gets certain opportunities of making pelvic examinations under anaesthesia and of personally assisting at operations. The operations and the operation specimens are demonstrated more or less fully, according to the custom of each operator and the amount of work he may have to get through. In the case of hospitals with only ten to twenty gynaecological beds the number and variety of cases seen in a month is necessarily very limited, and is, in fact, quite inadequate as a course of clinical training.

Among gynaecological out-patients the student usually sees a large number of minor cases, and is allowed to examine a fair proportion of them. He needs close supervision and a good deal of assistance in learning to make the bi-manual examination, and in the case of a large out-patient clinic the number of cases which have to be seen precludes the out-patient physician from devoting close attention to the student. In a small clinic the number and variety of the cases seen by the student in one month is quite inadequate. As a rule the out-patient physician is assisted by the resident obstetric officer, but it is rare to find any system operating for the sifting of cases, so that those most suitable for teaching may be passed at once to the out-patient physician. Usually the resident obstetric officer sees all the old cases and the out-patient physician all the new ones irrespective of their clinical importance.

Deficiencies in Gynaecological Training.

It is in the clinical training of the students that defects are most apparent. These deficiencies can be traced mainly to two causes: (1) The very inadequate number of gynaecological beds in all the hospitals; (2) the very inadequate amount of time which the student devotes to the subject. With regard to the number of beds, it must be recollected that midwifery and gynaecology together form one-third part of the final examination, and are associated on equal terms with medicine and with surgery. The combined number of gynaecological and midwifery beds available for teaching is less than one-third of the number allotted either to medicine or to surgery. This policy of cramping the work of the obstetric physician is due partly to the failure of colleagues to realize the importance of these subjects to the medical practitioner and to the community, partly to the relatively low level of the requirements of most of the examining bodies. In both medicine and surgery the student is obliged to clerk for six months, while to clinical midwifery and gynaecology combined he does not devote more than three months at most hospitals.

D.—THE CONSEQUENCES OF DEFECTIVE TRAINING IN MIDWIFERY AND GYNAECOLOGY.

(*a*) The training of medical students is a matter of the first importance to the State, for efficient doctors are necessary to the maintenance of the public health. In the early years of his private practice midwifery and the minor ailments of women and infants form a large proportion of the young doctor's work, and yet these are probably the subjects in which his practical training has been most deficient.

(*b*) Since the great majority of students learn to conduct labour only under conditions in which surgical cleanliness cannot be enforced, they carry with them into practice the impression (perhaps subconsciously) that surgical cleanliness is not of the same importance in midwifery as in surgery. The makeshift methods with which they begin their experience tend to become stereotyped in their minds, and the effect of this upon their work in private practice must be very bad.

(*c*) The bearing of this point upon the incidence of death from child-bearing in the country cannot be overlooked, During the period 1891 to 1914 this death rate of childbirth for Great Britain and Ireland was almost stationary, the fall being only from 5.8 to 5.08 per 1,000 births. This can only be regarded as extremely unsatisfactory, for it shows that during a period in which surgical training made such rapid advances midwifery training made none. Indeed, in all divisions of the country except Ireland the death-rate actually rose in the quadrennium 1911–1914. The conclusion cannot be avoided that both medical students and midwives are being imperfectly trained.

(*d*) The student has been accustomed to pay only perfunctory attention to the puerperium, for he has been left largely to himself at this period while attending his cases on the district; he therefore cannot be expected to realize its importance from the point of view of the health and working efficiency of the mother.

(*e*) The average newly qualified doctor has had little or no clinical training in the management of the infant and usually leaves it entirely to the nurse. Even in the case of the well-to-do, the nurse often regards the infant as her patient, and feeds it or doses it without reference to the medical attendant. Mothers also come to think that this is the proper arrangement and to prefer the advice of the nurse. There is no doubt that many infant lives are lost owing to the fact that medical students receive insufficient clinical training in this subject.

(*f*) It is the personal experience of all the members of your Committee that medical practitioners do not consider it necessary to obtain the services of a specialist or of a hospital in the emergencies of midwifery to the same extent as they undoubtedly do in the case of general surgery. This is largely due to the fact that they have not, during their training, seen such cases dealt with by the senior obstetric officers in the way that they have seen serious surgical cases dealt with by surgeons. Their custom is to call in a neighbouring practitioner and to do the best they can.

(*g*) The lack of hospital accommodation for women in labour, and the lack of public means of transporting patients to hospital, tend to confirm the practitioner in this attitude.

(*h*) The close relation which subsists between bad midwifery and pelvic disease in women is well recognized. A sound practical training in the recognition and treatment of pelvic disease is as important as the midwifery training itself. Young medical practitioners are probably less able to recognize common forms of gynaecological disease than they are common forms of medical or surgical disease. The results are very serious in regard not only to the life but also to the health, working efficiency and subsequent capacity for child-bearing, of the women of the country.

(To be continued.)

THE frequent association of biliary and pancreatic lesions led Brocq and Morel (*C. R. de la Soc. de Biol.*, April 12th, 1919) to test the effect of bile and pancreatic secretion in dogs. Neither ligature nor section of the pancreatic duct produced lesions at all comparable to haemorrhagic pancreatitis. But if 2 to 5 c.cm. of bile were injected into the previously ligatured duct, positive results were obtained if the animal had fed shortly before, and negative results if the animal were in the fasting condition. Thus acute forms were produced in six cases, the animals dying within forty-eight hours, and subacute forms in eight cases in which the animals survived. The first class showed large pancreatic haematomata and numerous patches of fat necrosis, and the second sclerotic induration of the head of the pancreas, with all intermediate stages between these two extremes. The intensity of the process seemed to vary with the quantity of the bile injected, and more especially with the intensity of the stage of digestion. If in place of this good secretory activity of the pancreas secretin were injected intravenously, the same results were obtained.

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THE WORK OF THE PARLIAMENTARY SESSION.

Though much of the work planned for the parliamentary session has gone over to the autumn, the new Parliament has already a big record of service to show. This has been made possible by the extension of the use of Grand Committee. Practically all the measures introduced in the House of Commons, with the exception of the Profiteering Bill, were referred to "a committee upstairs," and the meetings of these bodies were held not only in the morning but also in the afternoon—that is, simultaneously with the debates in the House itself. The grave drawback to the arrangement has been that it has taken interest from the main proceedings, by reducing attendance in the Chamber, and lessening representative strength. The feeling is that the change is undesirable, but that it was justified by the imperative necessity of setting the machinery of reconstruction to work.

The session stands out for the passage of six Acts of particular importance. The Ministry of Health Bill, the bill to constitute a Ministry of Transport, the Housing Bill, the Acquisition of Lands Bill, the Police Force Bill, and the Profiteering Bill all had to be taken as quickly as possible in order to meet the new conditions. In addition, the shadow of financial difficulties has loomed ominously over everything. The Budget called for much more than ordinary attention, both on account of the tremendous burden of obligations, and also because it marked, as Mr. Chamberlain said, a transition policy towards imperial preference, on lines to which the Premier committed himself in his letter to Mr. Bonar Law just before the General Election.

Everyone who has had experience of parliamentary procedure will appreciate that the need for rapid progress greatly assisted in smoothing the way of the Health Ministry Bills. Dr. Addison and Major Astor, with some aid from Sir Kingsley Wood and the law officers of the three kingdoms, dealt with the Grand Committee in a happy spirit of reasonableness and compromise, while giving no opportunity for waste of time. On report in the Commons, the same care for celerity was observed, and in the House of Lords no serious obstacle in the shape of cardinal amendments was put in the way of the scheme. Indeed, the only matter of real doubt was as to the length of the interval that must elapse before the Poor Law Administration can be detached from the Ministry of Health, and on this point Dr. Addison renewed the assurance that the Government intended to rearrange matters so soon as the departmental machinery can be adjusted. There was some concern as to the use to which the powers for action by draft order might be put, especially in reference to the creation of consultative councils, but the qualification whereby these draft orders must lie on the table of each House for thirty days, was considered to meet the case. It will be recalled, too, that the Grand Committee insisted on the immediate transfer to the Ministry of Health of those provisions for the medical treatment of school children which then rested with the Board of Education. Dr. Addison, while expressing himself as thoroughly in sympathy with the desire to transfer these powers, pleaded that there were practical difficulties against taking this course at once; ultimately on report in the House of Commons, a satisfactory qualification was made whereby while the Ministry of Health will under the Act be made responsible, it can delegate its authority to the Board of Education.

For a time it seemed as if the Government would have a much more troublesome experience over the Ways and Communications Bill, which creates a Ministry of Transport with more or less control over railways, waterways, and roads. All sorts of local interests—some because their management was good and they feared bureaucratic mismanagement, and some for quite other reasons—were aroused, but eventually they were smoothed, and it was made clear that however directly Sir Eric Geddes, as the new Transport Minister, may exercise his individuality in the unification of railways, the principle of nationalization is not involved; that question will remain for separate decision hereafter.

The Housing Bill excited comparatively slight notice, the reason being that it was recognized to be a matter depending very largely upon administrative arrangements and local patriotism, which did not raise any great questions of principle or new policy. The local authorities are to submit schemes to the Ministry of Health, and in default the Ministry of Health can act for itself. In order to carry through what is needed, the Treasury may give a subsidy which will not exceed the amount produced by a rate of 1d. in the £ for a period of years. The town planning clauses, which give some power of control to the Ministry of Health, also met with general approval. A kindred measure that stirred more discussion was the Acquisition of Lands Bill. The trouble was in regard to the terms of purchase. On the one hand it is laid down that no compensation shall be given for compulsory acquirement, but, on the other, that the value of the land shall be reckoned on what it might be expected to realize in the open market. The Opposition urged that the value should be judged by the assessment of the property, but the Government held to the view that this would not meet the circumstances.

The problems of labour have greatly occupied Ministers, having been raised in all sorts of forms and phases, but the principal legislation in this regard has gone over to the autumn. Following on the establishment of an Industrial Council a bill has been introduced to make forty-eight hours the limit for a working week in industrial trades, excluding agriculture and a few other occupations. A bill to embody a number of the recommendations of the Sankey Commission on Coal Mines is to be brought forward in the autumn. It will be on the lines of the Duckham minority report. Nationalization will not be adopted, but there will be proposals for amalgamated working of mines by areas under Government supervision, to secure economy and efficiency in management, and the miners are to be represented on the directorates and local managing bodies. Two matters of transitional importance, indirectly affecting labour, and in a less degree other classes, were dealt with in a couple of small bills—the Aliens Restrictions Bill and the Rents Restrictions Bill—both of which with some variations, carry on war legislation for a limited period. The Aerial Navigation Bill with its regulations for aviation marks the application of a new science as part of our ordinary life.

The Pensions Bill had for its object to complete the authority of the Pensions Minister for large develop-

ments of the scheme for dealing with the casualties of war, as they will remain with us for this generation. The original estimate for pensions for the current year was for seventy-three millions sterling; supplementary estimates for eleven millions sterling brought up the total to eighty-four millions, and Mr. Lloyd George told the House of Commons the other day that we may have to reckon the cost of pensions broadly at a hundred millions a year when the maximum charges are reached. Sir L. Worthington Evans, who became Pensions Minister soon after the last general election, has done very much to give confidence in that department. He has shown real power in gearing up the stupendous new organization necessary, and while doing so much to improve its efficiency has recognized the human elements in its working, taking care to make the system capable of accommodation and adaptation. He has manifested himself anxious to meet the urgent need for treatment, either surgical or medical, while the conditions remain most favourable for such attention—appreciating the danger of delay. His attitude towards medical questions and the medical profession has been sympathetic, and he has shown an encouraging degree of appreciation of the difficulties the medical boards encounter in deciding the complicated problems presented by individual cases.

The subject upon which the Government has been and is subject to the sharpest criticism is finance, and the Government in turn has addressed the gravest possible words to the nation. A fortnight ago the Chancellor of the Exchequer told the country that we were heading straight for bankruptcy; and Mr. Lloyd George, in his speech just before Parliament rose, said that as things were going we should have an excess of eight hundred millions in imports over exports—which, of course, would represent a hopeless situation. The call for increased production to correct our position was made still more pressing by the loss to the country which this state of things produced on the exchange with the United States, where we now get in value of goods only 17s. or less for £1. The Chancellor of the Exchequer disclosed that the Government is still spending at the rate of four and a half millions a day, and the fact that the expenditure by several departments is swelled by war commitments which can only gradually be stopped does not, of course, relieve the existing situation. Drastic revision of the service estimates was promised to modify expenditure in the second half of the financial year, and Sir Auckland Geddes has since stated that at the suggestion of the Chancellor of the Exchequer a financial committee has been formed, that its chairman, the Prime Minister, is throwing himself with all his wonderful energy into the work of cutting down expenditure, and that in consequence enormous results are being achieved. An immediate action of the committee has been the reorganization of the Treasury, with the appointment of a new permanent secretary and three controllers—of establishment, of supply services, and of finance—with authority for exercising these responsible functions.

Few personal reputations have been made or materially strengthened during the session. Sir Auckland Geddes has been the resource of the Government for tackling many difficult and complex questions, and owing to the pressure of his diverse tasks, has not had a fair chance of showing to his best in the House of Commons. Sir Robert Horne, the Labour Minister, is the discovery of the session. His imperturbability has gained him the sobriquet "Hail smiling Horne." Mr. Bonar Law has done much to moderate the embarrassments of the Government by his skill as leader of the House, and still more by the regard he has won from men of all parts for his honesty and altruism. Lord Robert Cecil in the few weeks since his return from France has won commanding attention by his statesmanlike criticisms and expositions as a private member. He holds the House whenever he rises. Sir Donald Maclean, as leader of the Independent Liberals, has won respect, and Mr. Clynes, amongst the Labour members, has shown wide vision and a great sense of responsibility; his speeches are marked by the quality of their matter as well as by their courage in dealing with the extremists of his own party.

The medical group in the House has used its opportunities well. Sir Watson Cheyne, with the help of Dr. Farquharson and others, succeeded in defeating the Dogs Bill, a measure which, under cover of a simple title, would have had a dire effect on the progress of scientific medicine. Dr. Nathan Raw did useful work on the Interdepartmental Committee on the treatment of tuberculous ex-service men. Sir William Whitla, Dr. Murray, Major Farquharson, Captain Elliott, and others also have frequently made useful contributions to the debates, quickening attention to health affairs. A special tribute is due to Dr. Addison, who had the task of getting the Ministry of Health Bill on to the statute book, and at the same time of instituting a host of administrative schemes, including those for housing, while applying himself to the regular burden of departmental work. He has, nevertheless, preserved an unruffled composure, and in passing from task to task has even suggested the Man of Leisure!

COUNTY COLONIES.

The British race has often been credited with a special aptitude for colonization in foreign parts. It is now being called upon to exercise that faculty at home. Expert opinion as to the value of the tuberculosis colony has, during the past few years, been put to the practical test and has not been found wanting. At Springfield near Edinburgh, at Papworth in Cambridgeshire, and at Walkington near Beverley in Yorkshire, such colonies have been established, and already bid fair to be self-supporting in practice. They are peopled by colonists in the earliest and most manageable stages of tuberculosis, who are enabled to live the ideally hygienic life while occupied in remunerative work suitable for each individual case, in the midst of congenial social surroundings. The Cumberland County Council, as we announced recently, is establishing a colony on the same lines, on an estate of thirty-two acres about seven miles from Carlisle.

The Interdepartmental Committee on the provision of residential treatment for tuberculous ex-service men, as will be seen from the notice of its report published at page 275, has advised that the sanatorium, training colony, and village settlement should form one organization, or at least be closely linked together, under the control of the Ministry of Health. The Committee takes the Papworth institution under Dr. Varrier Jones as a model. There is an estate of 350 acres with a sanatorium and hospital in which men are placed on admission; the more advanced cases remain there, but a man who becomes fit to work is sent to the training colony section, where accommodation is provided in shelters in the grounds. The men are trained in carpentering, cabinet making, boot repairing, gardening, and pig and poultry keeping. After six months at the colony the men are offered

permanent employment, with housing accommodation in the village settlement. If they work at trades they are employed in the colony workshops, and receive the standard rate of wages of the district; but they may also become employed in dairy work, poultry keeping, and farm work, and work in the village shop managed by an ex-patient.

In a report by the executive of the Hull After-Care Committee the various steps by which success in the establishment of its colony at Walkington has been reached are recorded. This account of its experience may be commended to the notice of other after-care committees, who may be called upon in the near future to face and to overcome similar experiences and difficulties. Much depends upon the tact and persuasive powers of the members of these committees. A large sum of money has to be raised in the first instance, and this can be achieved only by persistent effort in representing to public bodies and private benefactors the need for combined action in the interests of the community.

By slow degrees the economic value of early treatment is becoming realized by tuberculous wage-earners, but the persuasive powers of the health visitor are often required to induce the patient to take advantage of it. The authorities of the Yorkshire colony have resolutely declined to admit or retain any but curable cases. At Papworth, where the scheme is well established, provision is made for the separate treatment of medium and even of advanced cases in closed or open-air wards. It is a healthy feature of these new colonies that inspection is freely invited. It has to be noted that in each instance, with the exception of the Cumberland Colony, it has been the munificence of individual donors that has enabled a good start to be made, but the cost of maintenance is partly covered by payments for patients sent by public bodies such as the County Councils, Pensions Boards, Insurance Committees, and others. A very large number of industries can be carried on in the colonies, often under the superintendence of ex-patients. The work might be extended indefinitely so long as funds were available to provide the necessary workshops and machinery. Little by little it is intended that these colonies shall be surrounded by villages in which the colonists may find permanent homes, there to carry on the trades they have learnt. They may thus be able to earn an independent living.

The difficult question of complete segregation during the degenerative stages of the disease has yet to be faced. There can be little hope of checking the incidence of tuberculosis so long as the distributor of bacilli is permitted to associate in family life with children and young persons. The use of the spitting-cup and the special handkerchief is no real safeguard. The patient with definite or advanced tuberculosis of the lungs ought not to be permitted to associate with young children. This, and many other important lessons with respect to the disease, are slowly but surely being instilled into the public mind by the efforts of after-care committees, and it is to be hoped that the success achieved in the instances to which we have referred may stimulate corresponding action in all the counties where the disease is prevalent.

A memorandum[1] on the whole subject was presented some time ago to the Local Government Board by Dr. J. E. Chapman, one of its medical inspectors, in which he points out that the title of "farm colony" is misleading. Only a small proportion of the patients are able to profit by agricultural training as a means of future livelihood. Most of them revert to their former employment. Experience has shown that the chief function of farm or colony life is to guard against relapse, while the healing process is gradually arresting the disease. The few months' treatment hitherto allotted to insured and other patients has proved to be utterly inadequate to prevent relapse, except in the earliest cases. Hence it has to be recognized that nothing short of prolonged residential treatment will suffice. Dr. Chapman's memorandum contains a very full discussion of the various problems which will have to be solved, and its suggestions for building plans, with illustrations of main types, are specially worthy of note.

[1] Memorandum on the Share of "Colonies" (Institutions for Training and for Employment) in the Treatment of Tuberculosis. By J. E. Chapman, M.R.C.S., L.R.C.P. Reports to the Local Government Board on Public Health and Medical Subjects (New Series, No. 122). H.M. Stationery Office. 1918. Price 2s. net.

POST-GRADUATE TEACHING IN LONDON.

WE are glad to be able to announce that the result of the vivid correspondence in our columns during the last few weeks is that the Fellowship of Medicine has resolved to continue the emergency course it instituted in London last spring. This wise decision will give time for the discussion of the more ambitious schemes for a permanent organization with a house, and perhaps a hospital, of its own, which some of our correspondents have been anxious to see set going at once. By all means let this be done if and when the means and money can be found, but let not the thing under our hand to-day be left undone. There is testimony on all sides to the success of the emergency course. It has met the needs not only of medical officers of the Dominions and of the United States of America who had time to spend in this country before going home, but also those of many medical officers holding Territorial, Special Reserve, or temporary commissions who wished to refresh their knowledge after four or five years' work in the army. We have before us the *Bulletin* of the Fellowship, giving a long list of lectures, demonstrations, and opportunities for clinical practice afforded during this week. It is intended to continue the course without interruption, and dates and details will be published in the *Bulletin* from week to week.[1] The special lectures which have been given during the course, at the house of the Royal Society of Medicine, will be resumed on September 15th. It is a good thing sometimes to hear how things strike a member of a family who has been at the other side of the world for a score of years and is paying us a visit. The essay by Sir Andrew Macphail, of Montreal, taken out of the Osler presentation volumes, and published in the first pages of this number, gives us some of the impressions of a very shrewd, very competent, and very friendly observer. He is not disposed to speak of British medicine with bated breath and whispering humbleness; its success, he says, has never failed and will not fail, even though at the moment it appears to be in abeyance because it has declined slavishly to follow some foreign fashions of the day. But like other observers from overseas, and like, indeed, ourselves—a healthy sign—he perceives the need of better provision for the education of graduates. He asserts that graduate and undergraduate teaching are one, not in their place or details, but in the conception of what medicine is and how it is to be learnt. As he says, men are no longer content to walk the hospitals; they demand a place where they can stand still or sit down to work with their own hands, and the demand does not cease because the man has become a graduate. "The graduate may profess that he has acquired the mystery, but no one believes him." We believe that Sir Andrew Macphail, had we been fortunate enough to keep him with us, would have praised the plans of the Fellowship of Medicine for its emergency course this summer, would have rejoiced at its success, and have approved its continuance. Apart from any present applications the essay

[1] Full particulars can be obtained on application to the Secretary of the Fellowship, 1, Wimpole Street, W.

may be read with enjoyment for its style, its epigrams, and its paradoxes. It has many passages of characteristic raciness, as, for instance, where of our way in science it is said, "we have mistaken facts for truth"; and again, "medicine is an art founded upon observation . . . with the human eye of the complete patient, and not of parts of him in the form of a slide under a microscope." Or again, "a medical school without research is like a ship without a compass." The lonely worker in the laboratory, who deals with truth in the abstract, is monitor of those who work publicly in the wards. The course is not in the direction to which the needle points: "the course is shaped and the compass keeps it true."

FURTHER RESEARCHES ON THE ETIOLOGY OF YELLOW FEVER.

NOGUCHI continues the account of his researches on the probable virus of yellow fever, *Leptospira icteroides*, an organism allied to the *Spirochaeta icterohaemorrhagiae*, or as he prefers to call it, *Leptospira icterohaemorrhagiae*, of infectious jaundice. In a previous series of papers, a note on which was published on July 12th, p. 48, he showed that intraperitoneal injection of blood from a yellow fever patient produced in eight out of seventy-four guinea-pigs symptoms and morbid changes resembling those of yellow fever in man; and that the blood, liver, and kidneys of these guinea-pigs yielded the *Leptospira icteroides*. In some further papers[1] he shows that in a number of guinea-pigs that did not manifest the symptoms and lesions of yellow fever after injection with blood from a yellow fever patient there was a temporary febrile reaction on the fourth or fifth day, followed in some cases by slight jaundice, but with a rapid return to the normal. Most, but not all, of these guinea-pigs, when later inoculated with an organ emulsion of a passage strain of *Leptospira icteroides*, were found to be resistant to infection, whereas control guinea-pigs inoculated with blood from malarial patients or from normal guinea-pigs died when subsequently injected with the emulsion. It therefore appears that the first series of guinea-pigs had passed through a mild or abortive infection, and had thus been immunized. Investigation of the effect of the blood serum of convalescent yellow fever patients upon *Leptospira icteroides* gave positive immunity reactions, thus rendering it highly probable that the organism is etiologically related to yellow fever. Cultures made from eleven cases of yellow fever gave *Leptospira icteroides* in three only; positive results were obtained from the heart's blood of experimentally infected animals, and these cultures also proved to be virulent to susceptible animals. The organism does not multiply in a medium in which there is no access to oxygen, and grows best in a dense solid medium when the supply of oxygen is not excessive. It multiplies by transverse fission, is 4 μ to 9 μ long and 0.2 μ wide, and is extremely delicate, unrecognizable by translucent light, though quite visible under a properly adjusted dark-field illumination. Ordinary aniline dyes stain it with difficulty, but after fixation with osmic acid the Romanowsky stains (Giemsa, Wright, Leishman) give positive results, though the beauty of the organism in dark-field illumination is never well retained even in the best stained specimens. It is a non-sporing organism with little resistance to heat, drying, putrefaction or disinfectants, and is soon destroyed in the presence of various organisms. It passes through Berkefeld filters V and N, and Noguchi's observations strongly suggest that it has a granular phase under certain conditions. Cultivations on sheep or horse serum media rapidly lose their virulence, whereas those on rabbit serum media preserve their pathogenicity. The convincing proof of the causal relation of *Leptospira icteroides* to yellow fever presents some difficulties. As already mentioned, this organism has been obtained in blood cultures in only three cases of yellow fever, and out of more than twenty-seven cases in only three has the organism been demonstrated in the blood under the dark-field microscope, the number of organisms in these being very scanty; but some specimens of blood, although not showing any visible organisms, infected guinea-pigs. Examination of the viscera from human cases gave positive results in one only, and of the urine in none. On the other hand, demonstration of *Leptospira icteroides* in the blood and various organs of experimentally infected animals was much more satisfactorily accomplished. Another point investigated was the presence of a leptospira in wild animals in Guayaquil and its relation to *Leptospira icterohaemorrhagiae* and *Leptospira icteroides*. It was found that 67 per cent. of wild rats harboured in their kidneys a leptospira which produces in guinea-pigs symptoms and lesions identical with those due to *Leptospira icterohaemorrhagiae*. Immunity reactions showed that this leptospira isolated from the kidneys of wild rats and mice belongs to the group of *Leptospira icterohaemorrhagiae*, and not of *Leptospira icteroides*.

[1] H. Noguchi, *Journ. Exper. Med.*, Baltimore, 1919, xxx, 1-30; 87-107.

BACILLARY DYSENTERY.

THE Medical Research Committee has recently issued two reports on dysentery.[1] In the one on chronicity in dysentery carriers some interesting details are given. The work was carried out by Captain William Fletcher, R.A.M.C., and Miss Doris L. Mackinnon, D.Sc., at the University War Hospital, Southampton, between May, 1917, and May, 1918. One of the chief characters of persistent infections with Flexner's bacillus, they state, is intermission. The organisms are found in the stools for one or two days in succession; then there is frequently an intermission of four or five weeks, during which all the examinations are negative, but at the end of that time the bacilli appear again. This renders the detection of a Flexner carrier a matter of difficulty, and makes it almost impossible to say when a patient has ceased to be a carrier. Men who are still carriers of Flexner's bacillus more than three months after the commencement of an attack of dysentery should, they think, be employed in England for a period of six months, and at the end of that time should be sent to hospital for two weeks, where their stools should be examined at least six times. Men who have been carriers of Shiga's bacillus for more than three months are not likely to be of further use as soldiers; if they work they generally break down in a short time. It is better that they should be discharged and placed under the civil health authority. All the Shiga carriers examined by the authors suffered from chronic dysentery and mental depression, and were unfit for work. The authors point out the importance of making the examinations of dysentery convalescents in laboratories attached to the hospitals where they have been treated. They believe that it is of the greatest assistance to the laboratory worker to be able to deal directly with the patient. The other report gives an account of an investigation by the late Dr. Gettings on the dissemination of the Flexner-Y group of dysentery bacilli. Unfortunately Dr. Gettings died during the progress of the investigation. Captain S. R. Douglas undertook the task of arranging his notes and papers for publication, and has accomplished the task in a very satisfactory manner. The chief conclusions are that although the biochemical reactions with a certain small selected number of carbohydrates are, as is usually recognized, extremely useful in affording a rough means of identification of members of the coliform group of bacilli, it is futile to attempt to classify a group of very nearly related bacilli, such as the Flexner-Y group of dysentery bacilli, into definite subgroups by using an extended series of these carbohydrates such as the "secondary series" introduced by Lewis. Even the use

[1] Medical Research Committee Special Reports. H.M. Stationery Office. No. 29, Fletcher and Mackinnon, price 9d. net; No. 30, Gettings, price 1s. net.

of maltose as a means of distinguishing the Y type of dysentery bacilli from the typical Flexner type was found to give fallacious results. It is also not feasible to divide the Flexner-Y group of dysentery bacilli by agglutination tests into a number of sharply defined subgroups, the results obtained being neither sufficiently sharp nor constant. By means of the absorption of the agglutinins from specific serums sharp and constant results were obtained, and it became possible to place strains of the Flexner-Y group in four definite subgroups. Some evidence, though it was not conclusive, was obtained that subgroup 3 was identical with that usually called the Y group of dysentery bacilli.

A PREVENTIVE THERAPY FOR CERTAIN MIGRAINES.

A PREVENTIVE therapeutic measure for certain cases of migraine has recently been described by Pagniez, Vallery-Radot, and Nast.[1] Three years ago they recorded a case of recurring giant urticaria, of alimentary origin, which they cured by advising the patient to eat a small quantity of the particular noxious article of diet an hour before a meal. They applied this principle to migraines which have for years resisted other forms of treatment. Five cases are described. One, a man aged 34, had had migrainous attacks since 10 years of age, usually twice a week. He had always had great difficulty in digesting meat and eggs. A cachet of half a gram of peptone, half an hour, or one hour, before the two chief meals every day for a fortnight was taken. He had no attacks during this period nor for six days afterwards. Then a return to the treatment controlled the attacks. They reappeared some months after cessation of peptone treatment, and were then rapidly controlled by it again. There was in this case, and also in the others, a great coincident improvement in digestive power. Two of the patients took cachets containing peptone half a gram, calcined magnesia a quarter of a gram, and powdered liquorice q.s. The writers find that in some cases of migraine the method fails entirely. At present it is unknown what are the special indications for or against it.

THE ROCKEFELLER FOUNDATION.

A REVIEW of the work of the Rockefeller Foundation in various countries during 1918 by the President, Mr. George E. Vincent, shows that its activities extended literally from China to Peru. The foundation has shown practical interest in advanced medical education in hygiene in two ways. In the first place it has by gifts for building, equipment, and maintenance, rendered possible the opening last October of the School of Hygiene and Public Health at Johns Hopkins University in Baltimore. In the second place it has, since 1915, followed the policy of granting a number of international fellowships and scholarships to students from foreign countries and American missionaries at home on leave. In 1918 there were 68 fellowships and scholarships distributed as follows: Brazilian physicians 3, Chinese graduate physicians 11, Chinese undergraduate medical students (formerly students of the Harvard Medical School of China) 10, Chinese pharmacists 3, Chinese nurses 6, medical missionaries on furlough 26, candidates under consideration for the new schools at Peking and Shanghai 9. The International Health Board has adopted a system of "study leave," by which members of its staff of medical officers, now nearly 60 in number, may, under favourable conditions of salary, pursue at the expense of the Board special courses in public health at leading American or foreign institutions. In this way the equivalent of additional graduate fellowships has been created. Provision was also made for bringing to the United States French medical men for special training in antituberculosis measures, but no appointments were actually made in 1918. A commission for the prevention of tuberculosis, at the head of which was Dr. Livingston Farrand, opened a campaign in France in July, 1917. Although there were in existence examples of every agency effective in combating tuberculosis, they were few in number and there was no centralized organization for a combined attack on the disease. The commission, in co-operation with the Tuberculosis Bureau of the American Red Cross, set about demonstrating the value of "team play" by organizing and co-ordinating the essential agencies. In 1918 four central dispensaries and six secondary centres were opened. Nurses attached to these centres visited patients at their homes; the Red Cross provided hospital accommodation, opened sanatoriums, and supplied food and clothing. Efforts were made to establish local committees in the leading towns. At the time of the first visit twenty-one dispensaries were in existence in twenty-seven departments. By the end of the year fifty-seven new dispensaries had been opened, twenty others were in process of installation, and plans had been agreed upon for forty-nine more. Besides these dispensaries, fifteen laboratories were in course of establishment and forty new committees organized. An active propaganda was carried on throughout the country by means of "tanks," posters, lectures, demonstrations, pamphlets, postcards, exhibits, and games. The services of the press and of art were enlisted as agents in the education of the people. The Foundation has also made experiments in the control of malaria. In four towns in Arkansas measures for the extermination of anopheline mosquitos were carried out with marked success. By draining and filling pools, ditching sluggish streams, and oiling surface water the breeding of the insect was almost entirely prevented. The results were striking. In Hamburg, Arkansas, the number of visits paid by doctors to patients suffering from malaria fell from 2,312 in 1916 to 259 in 1917 and to 59 in 1918, a reduction for the period of 97.4 per cent. In four other communities the percentage of reduction varied from 95.4 to 80 per cent. In Sunflower County, Mississippi, it was believed that a malaria control of 80 per cent. was achieved. In regions where surface water cannot be dealt with "carriers" are looked for and treated. In Guatemala an epidemic of yellow fever was checked. Work for the relief and control of hookworm disease was carried out in co-operation with twelve States of the Union and with twenty-one foreign countries. In China the construction of the fifteen buildings of the Peking Union Medical College was steadily proceeded with in 1918. An account of this institution was given in the BRITISH MEDICAL JOURNAL of August 2nd, 1919. On account of the glazed green tiles used to cover the roofs the College is called by the Chinese "the Green City."

EXPERIMENTS ON ANIMALS.

IN a return showing the number of experiments on living animals in England and Scotland during the year 1918, recently issued,[1] Sir George D. Thane, Chief Inspector, states that twenty-three new places, mostly laboratories connected with military hospitals or municipal establishments, were registered for experiments. Eight places were removed from the register. The total number of licensees was 701; of these 401 performed no experiments. The names of those who did and the number of experiments performed by each one are given in a table. The table is divided into two parts—(A) and (B)—for the purpose of separating experiments in which anaesthetics were used from those performed without them. The total number of experiments in (A)—without anaesthetics—is 1,557. Of these 804 were performed under licence alone; the rest were done under certificate—147 under C., 457 under B., 149 under B.+EE. Table (B) is devoted entirely to inoculations, hypodermic injections, and some few other pro-

[1] *Presse médicale*, 1919, xxvii, April 3rd, p. 172.

[1] H.M. Stationery Office; to be purchased through any bookseller. Price 2d. net.

ceedings without anaesthetics. It includes 76,053 experiments, of which 73,923 were performed under Certificate A., 2,117 under A.+E., 13 under A.+F. In no case was a certificate dispensing wholly with anaesthesia allowed for operative procedures more severe than subcutaneous venesection. The total number of experiments was 77,610, being 22,068 more than in 1917. The number included in Table (A) shows an increase of 223 and that in Table (B) an increase of 21,845. During the year 6,027 experiments, 137 in Table (A) and 5,890 in Table (B), were performed in the course of investigations on cancer, nearly 29,000 for Government departments and public health authorities, and over 37,000 in the preparation, testing, and standardizing of serums, vaccines, and drugs. Frequent visits, for the most part without previous notice, were paid by the inspectors to the several registered places, and a large number of experiments were witnessed. The animals were suitably lodged and well cared for, and the licensees generally were attentive to the requirements of the Act and the conditions attached to their licences. The irregularities reported were few and not serious; all occurred unknowingly, and were generally due to misunderstanding. In each case a suitable caution was given. Mr. R. F. Tobin states that in Ireland the number of licensees at the end of 1918 was 22; of these 6 performed no experiments. One new licence was issued. The number of experiments performed by 16 licensees was 313; of these, 54 were under licence alone and 259 under certificate, 232 being simple inoculations under Certificate A. In 81 cases the aim of the research was physiological, in 92 pathological and in 140 therapeutic. The inspector expresses the belief that the holders of licences obeyed the spirit as well as the letter of the Act, and that experiments have not been unnecessarily multiplied.

PLAGUE IN BANGKOK.

IN the *Medical Journal of the Siamese Red Cross* for April, 1919, Dr. H. Campbell Highet, Principal Medical Officer of Health, states that the first authentic case of plague in Bangkok was discovered on December 20th, 1904. The infection was in all probability conveyed by Indian traders from Bombay. Since its introduction the disease has persisted in Bangkok. No estimate of the death rate can be made, because the majority of cases were reported only after death. Of the patients taken to hospital many were already moribund, while of those in private houses who recovered the medical officer was never informed owing to the fear of the householder that he would be prosecuted for concealment. At the hospital for infectious diseases the death rate varied from 47.3 to 83 per cent., the difference depending on the promptness with which the case was brought for treatment. Siamese and Chinese were equally affected, but no resident European has suffered from the disease. On February 15th, 1905, a public notification setting forth in detail the preventive measures required was issued by the Minister of Local Government, H.R.H. Kron Phra Nares Voradridhi; this was urgently called for, as the populace was obstructing the medical officers, and rumours were freely spread that the doctors took people to hospital, whether sick or not, put ice on them till they died, and made medicine from their bodies. A hospital for infectious diseases was opened by the late King on December 4th, 1905. The city was divided into three districts, to each of which inspectors were appointed, who examine all suspicious cases, report to the registrar, instruct the police to see that the body is forthwith cremated, and telephone to the chief sanitary inspector, who arranges for the inoculation of contacts and the disinfection of the house. The system, though not perfect, has been the means of bringing to light a very large proportion of cases. During the year 1909–10 inoculation with Haffkine's anti-plague vaccine was introduced. All members of the medical and sanitary staff were treated, and in the following year several hundred private persons submitted voluntarily to the procedure. Since then several thousand inoculations have been performed every year. By a further notification issued on February 16th, 1918, inoculations were made compulsory when thought necessary by the medical officer, and penalties were imposed for non-compliance. Opposition to preventive measures has not been confined to the poor and ignorant; the medical officers have repeatedly been obstructed in their work by well educated persons of high rank. Dr. Highet urges diffusion of knowledge by popular lectures and by teaching in schools, but is of opinion that this must be reinforced by prosecution of all offenders. Much difficulty is encountered from magistrates who dismiss charges on the pretext that the people are not doctors, and therefore cannot recognize plague when they see it.

MEDICAL ARRANGEMENTS IN THE AFGHAN CAMPAIGN.

A REUTER'S telegram from Simla, dated August 19th, shows that, as we surmised, the medical services in India had done all that was possible with the means at disposal on the North-West Frontier. Lieutenant-General Sir Charles Burtchaell, Director of Medical Services in India, who has been visiting the frontier, stated that the difficulties and consequent discomforts of rapidly improvised hospitals in the early days were great, but they were soon remedied owing to the way everyone worked; all the hospitals are now in excellent order. He placed certain statistics at the disposal of the agency which, it is said, show that the loss from sickness was unusually low considering the exceedingly trying climatic conditions. The total admissions from May 15th to August 9th were 10,882 British, and 45,774 Indian troops and followers, giving a daily admission rate on 1,000 strength of 4.98 British and 20.97 Indian. The actual number of sick on August 19th is stated to have been 2,172 British, and 7,956 Indians (10,128) out of a total of about 268,000. In view of impediments the manner in which cholera was suppressed is declared to be a triumph for medical skill and devotion to duty; 100,000 men were inoculated within a fortnight. It is further stated that the deaths from heatstroke numbered 26 British and 140 Indians; the number who died from wounds was 18 British and 44 Indians. The telegrams from the Viceroy to the Secretary of State, noted last week, showed that the impediments against which the medical services had to work might in many cases have been foreseen and prevented had the Government of India showed proper foresight.

FRENCH PENSION REGULATIONS.

CERTAIN changes have been introduced into the French war pensions system. A new decree directs that claims in respect of wounds or of disease contracted or aggravated on service shall be made to the Director of the Public Health Service of the army corps of the region. The applicant is entitled to produce medical certificates and to have the help of a doctor chosen by him. The documents which must be taken into consideration by a pensions commission include certificates from medical experts and the statement of the applicant's own doctor. The commission has the power to require the applicant to submit to a new medical examination. It determines the character of the disability, whether temporary or permanent, and makes its final decision after taking into consideration all the circumstances.

THE Kensington War Hospital Supply Dépôt did most excellent work for the military hospitals in supplying splints and other surgical and hospital requisites. They were well made, and great pains were taken to carry out the instructions of surgeons. Mr. Edward F. Slade, the honorary secretary, informs us that it is intended to continue the work of making orthopaedic and surgical appliances for the benefit of the civil hospitals. The address of the dépôt is 11, Kensington Square, W. 8.

HONOURS.

The sixth Supplement to the *London Gazette*, dated August 22nd, contains the following list of honours and mentions of medical officers of the Royal Navy and Royal Naval Volunteer Reserve in recognition of services rendered on ships and other places in connexion with the war:

To be C.M.G.

Surgeon Commanders: John Falconer Hall, Thomas Tendron Jeans, Francis Bolster.

To be C.B.E. (Military Division).

Surgeon Captain Charles Sharman Woodwright.

To be O.B.E. (Military Division).

Surgeon Commanders: John Alexander L. Campbell, Hugh Clift, Thomas Dufour Halahan, Cecil Hugh Myddleton Hughes, William Ludgate Martin, Claude Woodham Morris, William Edwin Ormsby, Montague Louis B. Rodd, Herbert Wells B. Shewell, Paul H. Mills Star, Robert William G. Stewart, Percy Temple Sutcliffe, Arthur Richard Thomas.

Surgeon Lieutenant Commanders (acting Surgeon Commanders): William Edmund Harker, Edward John Steegmann, Robert Joseph Willan, M.V.O., Walter Kenneth Wills.

Surgeon Lieutenant Commanders: Francis Cooke Alton, James Campbell Bringan, Henry Burns, Sheldon Francis Dudley, Sidney Wilfred Grimwade, Thomas Walter Jeffery, Gerald Roche McCowen, Gerald Nunn, Horace Elliot Rose Stephens, George Gordon Vickery, Leonard Warren, David Percival D. Wilkie.

Surgeon Lieutenant (acting Surgeon Lieutenant Commander) Gordon Ernest D. Ellis.

Surgeon Lieutenants: Charles Henry F. Atkinson, Samuel Saxton Barton, Thomas Beaton, Kennett Bonson Bellwood, Owen Deane Brownfield, Roger Buddle, Philip Norman Button, Richard Stocker Carey, Walter Ernest Dixon, William A. Scholefield Duck, Frederick Bentley Eykyn, John Gerald A. Fairbank, Marmaduke Fawkes, Edward Ernest Fletcher, Thomas Evan Francis, Walton Leigh Mackinnon Goldie, Leslie Stewart Goss, Ashley Ernest Herman, Ernest Charles Holtom, John Lambert, Duncan Lorimer, Gerald Roche Lynch, Ronald Guy Lyster, Harold Corry Mann, Horace Palmer Margetts, Cyril Frederick Mayne, Albert Clifford Morson, John Ramsey Palmer, Oscar Parkes, Harold Fey Percival, Alan Harvey Richardson, Edward G. Slesinger, Reginald Eccles Smith, Edwin Lawrence Sturdee, Frederick Thompson, Llewellyn Rhys Warburton, Alfred Gregson Williams, George Edmund Wood.

Mentioned for Valuable Services.

Surgeon Lieutenant Commanders: Arthur Douglas Cowburn, Herbert Leith Murray, Charles Francis Alexander Hereford.

Surgeon Lieutenants: John Campbell Hill Allan, Robert Townly Bailey, Frederick James F. Barrington, Ivor Hamilton Beattie, Thomas Charles Blackwell, Ralph St. Leger Brockman, Charles Milwyn Burrell, Hildred Carlill, Norman Clifton Carver, Hubert Chitty, Edward Alfred Cockayne, Bertram Cohen, Arthur Henry Crook, M.C., Frederick Charles Endean, Edward Fow Fisher, Edward Garlick Fisher, William Innes Gerrard, Edwin Augustus Green, Alfred Ernest W. Hird, David Andrew Imrie, John Richard Kay-Mouat, Andrew Lawrey, James Lorimer, Douglas McAlpine, Alexander James MacDiarmid, William Alexander McKerrow, Arthur Craigie McVittie, Thomas Robert Grey Melrose, Alexander Craigie Mooney, Ernest Farquhar Murray, Frank Chafen Newman, Robert Henry H. Newton, Thomas Norman, Wilfred Stephen Ollis, Edward Philip Punch, William Graeme Robertson, William Wilson Rooke, Alexander Elder Sanderson, William Octavius Sankey, Alan Lee Sutcliffe, John Cuthbertson Walker, George Edger Septimus Ward, Edward Joseph Winstanley.

Foreign Decorations.

The following decorations have been conferred by the Allied Powers for distinguished services rendered during the course of the campaign:

Conferred by the King of the Belgians.

Ordre de la Couronne—Chevalier: Temporary Captain John R. Rees, R.A.M.C.

Conferred by the President of the French Republic.

Legion of Honour—Chevalier: Major George W. W. Ware, D.S.O., R.A.M.C.

Croix de Guerre avec Etoile (en Argent): Captains Robert Burgess, D.S.O., M.C., R.A.M.C.(T.F.), Peter J. Ryan, M.C., 24th Field Ambulance, R.A.M.C. Temporary Captain (acting Major) Trevor Abbott Lawder, 24th Field Ambulance, R.A.M.C.

Croix de Guerre.—Captain Joseph A. A. Pare, M.C., 11th Canadian Field Ambulance, C.A.M.C. Temporary Captain Frank P. Montgomery, M.C., R.A.M.C. Temporary Captain (acting Major) Frederick B. Winfield, R.A.M.C.

Médaille d'Honneur avec Glaives (en Vermeil).—Majors William D. C. Kelly, D.S.O., R.A.M.C., Thomas C. Ritchie, R.A.M.C. Temporary Captain Herbert T. Retallack-Moloney, R.A.M.C.

Médaille des Epidémies (d'Or).—Major-General Sir Hayward R. Whitehead, K.C.B. Lieut.-Colonel Arthur R. Aldridge, C.B., C.S.I., C.M.G., R.A.M.C. (Reserve of Officers). *(En Argent):* Temporary Captains George D. Eccles, M.C., R.A.M.C.(T.F.), David Llewelyn Williams, M.C., R.A.M.C.

Conferred by the King of the Hellenes.

Order of the Redeemer.—Officer: Colonel Edwin T. F. Birrell, C.B., C.M.G., A.M.S.

Military Cross.—2nd Class: Temporary Captain William K. McIntyre, M.C., R.A.M.C. *3rd Class:* Captain Bernard E. Potter, R.A.M.C.(T.F.). Temporary Captain George P. B. Huddy, R.A.M.C.

Medal for Military Merit.—3rd Class: Colonel Edwin T. F. Birrell, C.B., C.M.G., A.M.S.

Conferred by the King of Italy.

Croce di Guerra.—Captain (acting Major) Myer Coplans, D.S.O., O.B.E., R.A.M.C.(T.F.).

Conferred by the President of the Portuguese Republic.

Military Order of Avis.—Grand Officer: Major-Generals Sir William W. Pike, K.C.M.G., D.S.O., Henry Neville Thompson, K.C.M.G., C.B., D.S.O. *Commander:* Major and Brevet Lieut.-Colonel Percival Davidson, C.M.G., D.S.O., R.A.M.C. Temporary Major (acting Lieut.-Colonel) Thomas B. Unwin, O.B.E., R.A.M.C. *Chevalier:* Captain (acting Lieut.-Colonel) George S. Parkinson, D.S.O., R.A.M.C.

Conferred by the King of Serbia.

Order of St. Sava.—3rd Class: Major Joseph Ward, C.M.G., D.S.O., R.A.M.C.(T.F.). *4th Class:* Temporary Captain Richard A. Wilson, R.A.M.C.

India.

Pay of the Temporary Officers of the R.A.M.C.

Considerable discontent exists among the temporary officers in the Royal Army Medical Corps in regard to pay and allowances while serving in India, and if the statement of a correspondent is correct—we have every reason to believe it is—their discontent appears to be justifiable. Temporary officers of the R.A.M.C. are now offered Rs. 550 a month, but no gratuity, if they sign on for twelve months. This sum, a correspondent points out, is Rs. 75 less than a temporary I.M.S. officer holding Indian qualifications is offered. The absurdity of such a condition of affairs is heightened when it is remembered that the average temporary R.A.M.C. officer has already served several, it may be four or five, years at considerable loss to himself and family. Many of them hold the highest qualifications obtainable in the British universities, while several are Fellows of the Royal College of Surgeons (England). No complaint is made that temporary officers in the R.A.M.C. are classed for duty with youngsters fresh from the medical schools of India, but it is manifestly unfair that the latter should be paid more for their services than the British officers who have not only served their country well for several years, but whose qualifications equal those of the topmost men in the medical profession at home.

Employment of Civilian Medical Practitioners in India.

Fresh efforts are being made to increase the medical personnel at the disposal of the military authorities in India. An Indian Army Instruction announces that sanction is accorded to the employment of private medical practitioners who may volunteer for service. The agreement which the medical practitioner volunteering will be required to sign provides that he shall receive a temporary commission as a lieutenant in the Indian Medical Service without any claim to permanent appointment. The pay for those employed for general service is to be Rs. 550 per mensem, with free rations or money allowance in lieu. There will be a gratuity at the rate of Rs. 75 per mensem at the end of the term of employment.

The Housing Problem in Bombay.

At a recent meeting of the Bombay Municipal Corporation a resolution was passed representing to Government the importance of dealing at a very early date with the question of housing in all its bearings and devising practical measures for increasing accommodation for the poor and middle classes in the city, including the opening up of new areas for building and of providing speedy transport. The resolution assured Government of the corporation's readiness to co-operate.

Dr. Giovanni Rizzi, emeritus physician to the Ospedale Maggiore, Milan, in addition to £11,640 already contributed to the clinical institutes, has recently given £20,000 to the hospital.

Correspondence.

A POST-GRADUATE SCHOOL FOR LONDON.

SIR,—Not only in London, but throughout the medical schools of the British Islands, there is, I am sure, a general hope that London will rise to the present exceptional opportunity, and establish a post-graduate school worthy of itself and the empire. It will be a calamity if she does not. At the risk of appearing presumptuous, and because I have several times discussed the matter as it would affect the specialty in which I am engaged, I would suggest that not only should all the hospitals and schools in London be utilized, but that an arrangement should be made whereby those outside might also co-operate. Distances in these islands, as our Colonial and American candid friends so often remind us, are small, and the extended opportunities for experience and study would, I feel sure, add to the attractiveness of the scheme.—I am, etc.,

Glasgow, Aug. 25th. W. S. SYME.

SIR,—It has required a great war to reveal to the profession the wealth of clinical material available for post-graduate work in London, and to show the eagerness of workers in all departments of medicine and surgery to utilize this material for the benefit of those desirous of doing post-graduate work. Now that this lesson has been learnt it is inconceivable that its import will be forgotten, and that in the future, as in the past, visitors from overseas will be allowed to "muddle through" on their own.

Organized and systematized post-graduate work has come to stay, and there are a sufficient number of enthusiasts in London to make it certain that post-graduate work in London will "carry on" whatever happens. As our transatlantic friends express it, the Fellowship of Medicine has "delivered the goods," and has undoubtedly caught on in the United States; as one of those who has been closely associated with him from the commencement, I should like to add that this gratifying result is due largely to the enthusiasm of Mr. P. Franklin.

With such an undoubted demand the work of the Fellowship of Medicine must be continued, and our great hope and expectation is that the Post-Graduate Association, by amalgamation with the Fellowship, will strengthen our hands, so as to enable London to present a united front and make the post-graduate school in London the foremost in the world.—I am, etc.,

London, W., Aug. 26th. HERBERT J. PATERSON.

LOCAL CLINICAL LABORATORIES.

SIR,—Dr. Hugh Miller has voiced a crying need; his letter is sound and sane. During over two years' work in charge of a military laboratory in a southern county I have been asked by country general practitioners to see patients with them (in my spare time) when they have been completely puzzled. Three children (described by the doctor as almost moribund) have been saved in the past few months, my commanding officer allowing me to supply pooled serum when diagnosing cerebro-spinal fever, and type serum after differentiating the type of meningococcus. Other obscure cases have been elucidated by blood culture, blood counts, and other methods. A most interesting case was that of a little girl of 3 who had been ill for a fortnight. A blood film—the temperature, roughly recorded, guided me—showed *Plasmodium vivax*, a case of indigenous malaria.

Curiously enough, it is the country doctors who ask for my help; the town doctors—and it is a big town—seem to rely on the London commercial laboratories for a report on a specimen, an unsatisfactory proceeding and often a fatal waste of time for the patient.

Since the armistice I have tried in every possible way to get a civilian post. I have twenty years' experience as a pathologist and bacteriologist, and have been compelled to remain in the army (after four years and five months' service) under the new agreement, through fear of unemployment. A friend and sometime laboratory fellow worker, a doctor of science, was demobilized last February, and it took him four months to obtain employment, and then it was the uncongenial work of coaching D.P.H. candidates in bacteriology!

Dr. Miller suggests training clinical pathologists. For Heaven's sake give the old experienced workers, who have hopelessly lost their specialist practices through army service, a chance first!

The whole thing could be done so easily. Divide the country into areas according to population and the proportion of panel patients. Two army huts, one for the laboratory and the other adapted for living in, could be handed over by the army to the Ministry of Health; a specimen "dwelling" hut, after its show purposes elapsed, would make an excellent home for an ex-army man. The necessary supply of gas, water, electricity (if possible), and sanitary fitments would be included. The site would not matter; it should be more or less central to the area, but not necessarily near a big town. A telephone is essential, and also a small two-seated run-about car. The specialist director in charge, especially if he has been a tetanus inspector, could easily organize the rest, both laboratory and living place, from his knowledge of surplus army stores of technical and domestic appliances and materials, if he were given a free hand.

When "fixed up" he would, with the authority of the Ministry of Health, circularize the medical practitioners in his area, offering service free to panel patients at the discretion of the doctor, and to private patients at a fee to be determined (without discussion or appeal) by the doctor in attendance; the "G.P." is a good fellow and has not yet come into his own.

The specialist director's salary should be a decent living wage paid monthly to his bankers (income-tax deducted just like army pay) by the Ministry of Health, no question of "pools" being involved. The car should be supplied by the Ministry of Health (from surplus army stores) and run at the specialist's own charges. He should receive monthly the running costs based on a mileage record for visits to panel patients, any costs over that he should bear himself. Stationery, postage expenses, the assistance of one helper (for washing-up, cleaning car, etc.) not necessarily trained to begin with, should be supplied, and also a supply of prophylactic, agglutinating, and curative serums should be given. All vaccines (except prophylactic T.A.B., etc.) should be autogenous and made in the laboratory.

The appointment of specialist directors should be in the joint hands of the Ministry of Health and the Army Medical Department. Some time ago I suggested, through the "proper channels," that a liaison officer, connecting the Ministry of Health with the Army Medical Department, is desirable. My suggestion was "turned down" by command head quarters, and permission was given me to communicate direct with the Minister of Health. Dr. Miller's letter has induced me to take this method of doing so; my correspondence was also partly an appeal against the conditions of the new R.A.M.C. contract, and is open for the perusal of any one interested.

My own experience proves that only by the *personal* association of general practitioner, laboratory specialist, and patient can any real help be given to the one most concerned—the patient.

I have discussed this question with general practitioners, real good conscientious men, who have told me how sorry they are that they cannot, as a routine *right*, get the help of men like myself for their panel patients. They want it; they cannot get it.

Wassermann tests could also be done; it is only a matter of organization and proper record keeping. Record of all laboratory work and visits could easily be kept and rendered in a quarterly report to the Ministry of Health. All "red tape" should be eliminated; it is a deadly strangle-hold!

A technical paper on "Standardization of a base culture medium" is at present "held up" because an old A.C.I. orders its submission in duplicate to the Press Bureau, defunct April 30th last! It appears that its publication will have to wait until the Army Council sees fit to amend its instruction!

We *must* be allowed to do our work for suffering humanity without these childish restrictions.—I am, etc.,

August 18th. BACTERIOLOGIST.

SIR,—May I be allowed a little space in order to endorse the very excellent suggestions expressed under this head by Dr. Hugh Miller in your issue of August 16th? Much the same views were expressed in the *Lancet* of June 21st

under the heading "Clinical pathology *en détail*," and their substance consists in a plea for local clinical laboratories where the pathologist is in close co-operation with the practitioner, as opposed to the scheme outlined in the M. 25 report, where large central laboratories are to be established at teaching centres which are to cater for regions of some size and of greater remoteness.

Speaking from the standpoint of the pathologist, it is clear that the general practitioner neither pretends, nor is competent, save in rare instances, fully to draw upon the resources of clinical pathology when tackling an obscure case, for the simple reason that he cannot know either the relative or applied values of many of the various examinations—as, for example, the Wassermann test or a blood count; and again, if the pathologist is to ascertain, for example, the significance of the presence of phosphates, free renal cells, or uric acid crystals in the urine, or why in some cases of tubercle of the kidney one does not find tubercle bacilli in the urine, how is he to co-ordinate his findings with clinical data if he has none?

The "penny-in-the-slot" system of clinical pathology to which Dr. Miller refers, as, for instance, when a specimen from an obscure case is sent to a central laboratory and is examined at best by someone who knows nothing of the case, or worse, by a laboratory assistant who may be good, bad, or indifferent, is obviously imperfect however simple in conception; commercialized pathology is worst of all. It is a healthy sign that the authors of M. 25 propose to discourage this practice.

What is wanted is good local laboratories in every town of over 50,000 inhabitants, with full autonomy, but subject to Government inspection by really competent and interested inspectors, who must have a profound knowledge of modern clinical pathology and all it connotes. Some such scheme as Dr. Miller outlines would provide an outlet for the energies of the most devoted pathologist, who would be thereby permitted to abandon the conventional hermit-like existence and refresh his knowledge of clinical medicine.

On the other hand, a local laboratory wherefrom the best work is abstracted — say stool examinations and Wassermann tests—will attract no pathologist who has a vestige of self-respect, and will merely produce a myopic race of beings skilled in piece-work, such as urine testing alone. Such a prospect is too horrible to contemplate.—I am, etc.,

Eastbourne, Aug. 19th. A. G. SHERA.

INFECTIVE CATARRHS.

SIR,—In connexion with your leading article on infective catarrhs (August 23rd, p. 244) may I be allowed to make one correction?

We never said, and do not believe, that "an acute attack is always due to infection from a preceding case," though it is obvious that there must have been infection from some one else originally. We also agree that there are many chronic carriers abroad.

But we do strongly hold that there is little or no evidence to show that the periodical exacerbations of catarrh to which such people are liable (denoting, as is generally agreed, lowered resistance) are due to cold or exposure. In any chronic infection such exacerbations, in surgical cases called "flares," are common, and cold is only one of a large number of factors influencing immunity. Dr. Millard is away, but I believe these to be his views.—I am, etc.,

Leicester, Aug. 26th. N. I. SPRIGGS.

ETIOLOGICAL FACTORS OF TUBERCULOSIS.

SIR,—I have great sympathy with Dr. Muthu in his efforts to make as little as possible of the importance of infection in tuberculosis; nevertheless, this is an aspect of the case which must be faced. It is quite certain that, if not exposed to infection, no one would develop tuberculosis. Unfortunately, at the present time, owing to the fear of being regarded as a leper, a large number of persons suffering from infectious tubercle are constantly mixing with the rest of the community, and as they deny that they have "consumption" it is quite impossible for them to take the simple precautions which would render them harmless; and, worse still, are unable to take advantage of the only treatment which will do them good. Some of these cases doubtless ultimately are treated as advanced cases, but by that time the damage will be done.

A few years ago I treated a man who had got into one of the London chest hospitals after suffering from severe haemorrhage, this latter having been preceded by some years by a pleurisy. No tubercle bacilli were ever found in his sputum; during his residence in the hospital one or two of his children had died of tuberculous meningitis; the authorities of this institution were so afraid of this man being unable to find work that he was given a certificate pronouncing him free of infection. A few weeks after he left the hospital he was admitted into the Ayrshire Sanatorium with only a few pieces of sputum, but they might have been taken almost for pure cultures of the tubercle bacillus, he had also evidently suffered from tuberculous peritonitis; this man did fairly well, and was able to work hard all the time he was in the sanatorium, and when I last heard of him he was earning his living as a gardener, and finding some difficulty in keeping out of the army. He had bacilli in his sputum on discharge. I made no trouble about explaining to him that he was very infectious, but was quite harmless so long as he had a bed to himself, carried a bottle, and did not cough in people's faces, and kept his windows open.

Now it may be all very well to assume that this man had no resistance to the disease—a condition inherited by his children who died of meningitis—but the facts are against this supposition; this man must have had a good resistance or he would have long since been dead, and the more reasonable view is to suppose that he infected his children. I have known a good many persons who were well able to go on with their work who have been discovered to be tuberculous owing to their young children developing tuberculous meningitis.

I think very little good is done by disputing as to the relative importance of the seed and the soil; this will vary in every case, and it will usually be impossible to differentiate. There is no reason to suppose that tuberculosis differs from other infections as to liability to infection; there are, of course, differences of susceptibility which are inherent; there are also many causes of acquired susceptibility which are often temporary, as, for instance, the weakening of resistance following upon an attack of measles, exhibited by the frequent commencement of tuberculosis at that time and the absence of reaction to the von Pirquet test during an attack. The most potent agent in producing a suitable soil for the spread of tuberculosis is the presence of an active tuberculous focus; if this activity is allowed to continue unchecked, resistance becomes more and more reduced. As this activity can always in the first place be checked by appropriate treatment, which consists in rest, I do not think we need look further for a reason for so many patients showing a slight resistance, as this is the last thing early cases are allowed to do at the present time. Of course the so-called pretuberculous stage is always due to the tubercle bacillus having become active, and it really represents the stage where there are symptoms but no physical signs. In estimating resistance we must take into account the magnitude of the attacking force.

Let us hope that in the future no more victims will be sacrificed upon either the altar of infection or that of heredity; then, by preventing infection at an early date and in a reasonable way, we may, perhaps, discover how far we have erred in looking upon this as a family disease.—I am, etc.,

New Cumnock, Aug. 22nd. EDWARD E. PREST.

NEW NAVAL RATES OF PAY.

SIR,—I have examined the JOURNAL with some interest for an expression of opinion on the new rate of naval pay, but have failed to find any.

The pay is, as a whole, a distinct improvement on past rates, but there are one or two points that seem to have been overlooked.

In the first place, there is the abolition of the right to retire at the end of four, eight, or sixteen years with a gratuity. A medical officer must now remain until the compulsory age of 50.

The foundation of specialist pay is a step in the right direction; but why abolish the charge pay for large seagoing ships? The idea of this pay was to attract men to serve in the ships at sea; the present specialist pay simply accentuates the desirability of shore employment.

The new retiring allowances need urgent consideration. At present the retiring pay of a surgeon commander is, roughly, £550 a year; the new *maximum* rate is £600 a

year, no matter how long the medical officer has served. Medical officers, as a rule, join the service at or about the age of 25, so that in all cases they will have to serve twenty-five years before they will be allowed to retire, a period of service which the new scale only contemplates for a captain retiring on the maximum of £900 a year. The medical officer will thus in all cases have to serve an additional five years which will not count towards his pension.

But a greater injustice is done in the case of all the present surgeon commanders who are over the age of 50. These officers have in some cases already put in thirty years' service—a period of service only contemplated for the retiring allowance of an admiral at £1,275 a year, as contrasted with a possible £600 for the medical officer.

I would suggest that in dealing with the present list of officers, the words "maximum retired pay £600" be removed from the Admiralty Order, and that the retired pay of medical officers depend on age and length of service alone. I understand that the scheme was to raise retiring allowances by 50 per cent. The medical officer at 55 should under any equitable scheme get, roughly, £775 a year, and it is a hardship that his pension is only to be increased by £50, that is, to £600 a year, at a time when the £1 is worth only 7s.—I am, etc.,

August 5th. M.O.

RETENTION OF MEDICAL OFFICERS IN EGYPT AND THE EAST.

Sir,—I do not think the position of the medical officers in Egypt is appreciated at home. Except for one or two cases of extreme urgency and compassion, no medical officers have been demobilized from the E.E.F. since May. It is now August, and we are informed that nothing can be done for us until reliefs arrive from England. In the British Medical Journal we read that recruiting under the new scheme has been a complete failure, so the prospect of our being demobilized is apparently as far off as it was in May. In the meantime newly qualified men, many of them sent from the combatant ranks to qualify, and protected from being used in the army, are now getting posts and starting practices at home. Surely it would be equitable for these to serve for one year, at any rate, and relieve the men who are far away from homes, families, and practices out here.

Many out here have had three or four years', and even more, service; many are between 40 and 50 years of age, with responsibilities weighing heavily on them. Whether there are men on the other fronts in a similar plight I do not know. What I do know is that combatant officers of some very few months' service have been able to get home easily. I myself have had over three years' service, nearly all of which has been with a battalion at the front. I have been applied for six months ago by my local Medical Committee (now, I believe, extinct). I was sent for by name early in May by the War Office for immediate release. This is impossible, as it is with others in a similar position, because there are no reliefs available. In a circular memorandum from the D.M.S. we are informed that none of us can be sent home until reliefs arrive, and also that there is no news of reliefs at present. As far as one can see, this position can remain unaltered for an indefinite period.

There are also out here young men who qualified early in the war who are anxious, after three or four years of army work, to return in order to do a little post-graduate study before starting in life. They will already be left behind by those who were students and were recalled to qualify. This seems entirely unsatisfactory, and I think should be brought to the notice of not only the profession, but those responsible for the present situation.—I am, etc.,

August 11th. Permanent Temporary.

Sir,—I beg to draw attention to the position of R.A.M.C. officers serving in the East, and under contract to serve until the termination of the present emergency.

The majority of these officers now come under two headings: First, those who have been called for by the War Office, but not released owing to the present shortage of medical officers; the greater number of these are men who were in practice before the war, and are eagerly waiting release to gather together again their lost practices. The second lot are the men who qualified early in the war, young men admittedly, but who have served mainly with front line units (divisions) where clinical work is at its minimum. These men, after release, will require to take post-graduate classes for eighteen months at least, to bring their knowledge up to the present standard demanded of doctors in practice.

The statement by the D.G.M.S. in your Journal of July 12th, 1919, that officers under the above-mentioned contract "*will be eligible* for demobilization on the statutory date of the end of the war" (the italics are mine), does not brighten our horizon—first, because in the Journal of July 26th you state that the response to the new voluntary scheme to serve for one year at £550 has not proved satisfactory. The lack of response is on the part of those newly qualified, as the officers in the army who are willing to remain have already signed on for the Army of Occupation. Secondly, if the response has still proved inadequate by the date of the official termination of the war, the "emergency men" can be retained under the Naval, Military, and Air Force Service Act of 1919 until April 30th, 1920, at which date demobilization of the Army of Occupation commences, and which will take another three months. Meanwhile, with the spirit of unrest prevailing in the world at large, a further emergency, such as the late Egyptian trouble, may spring up, the result being that we shall be retained. I would like you to note that, by the time you receive this, all 1914 and 1915 combatant officers and men will have been demobilized; therefore, why should the medical officers, who have gone through almost as much hardship, be retained and have to wait and see the Derby men go before them? Meanwhile, from correspondence in the Journal lately, there seems to be a surplus of doctors at home.

At the beginning of the year you gave in the British Medical Journal the number of men in their final year as nine hundred odd. These men were protected from conscription and enabled to qualify, so that there would always be a supply of doctors mainly for military needs; therefore, why should they not be roped in now? They are required in the army now as much as when hostilities were on—namely, to release those who have served their king and country for years, and who will have to devote another one or two years of their life before they are able to launch out on their own.

For the present I sign myself,

August 12th. Present Emergency.

THE POSITION OF T.F., S.R., AND TEMPORARY OFFICERS R.A.M.C. COMPARED.

Sir,—I wish to set out some points of comparisons between the pay of those who joined the T.F. and S.R., R.A.M.C., after the outbreak of the war and those who joined the R.A.M.C. with temporary commissions. In paragraph 496 (*a*) of Royal Pay Warrant it is laid down that—

(*a*) Retired officers compulsorily recalled and (*b*) other officers specially taken into employment by reason of a national emergency shall receive while so employed the same rates of pay and allowance as officers of corresponding army rank in the same area or branch of the service.

It goes on to specify that under (*b*) the following may be included:

Officers of the Special Reserve of Officers and Territorial Force employed with our regular army. Ex-officers or *civilians* appointed military positions in the Imperial Forces.

In face of the above, during the recent national emergency civilians were appointed to the R.A.M.C. at increased rates of pay as compared with Regular, Special Reserve, and Territorial Force.

The consolidated pay of a temporary officer R.A.M.C. was 24s., the pay of a captain R.A.M.C.(T.F. or S.R.) was 15s. 6d. a day, and he received fuel allowance of 3s. 6d., making 19s.; with the British Expeditionary Force he received lodging allowance 3s. and fuel and light allowance 1s., making a total of 23s. He thus at home received 5s. a day less than the temporary officer, and with the British Expeditionary Force 1s. a day less. If evacuated to England wounded or sick, or on leave, he loses his lodging and fuel and light allowances, amounting to 4s. a day, and so thus serves while at home through wounds or sickness at 5s. a day less than a temporary officer. If in hospital he would be provided with fuel and light.

A temporary officer receives a bonus of £60 at the end of each year; the Territorial or S.R. officer receives a bonus of £96 for the first year and £48 the second year, making an average of £60 a year on four years' service—the same as a temporary officer. The Territorial or S.R. officer loses the interest on the bonus over a period of four years; if he serves for more than four years his gratuity becomes less than an average of £60 a year.

A temporary officer could at first sign on for a year conditionally, a Territorial or S.R. had from the first to sign on unconditionally. A temporary officer gets contract leave of fourteen days. The only advantage of a Territorial officer was that his income tax was assessed on his pay of 15s. 6d. (as captain), whereas a temporary officer was assessed on his consolidated pay of 24s. a day.

The pay and allowances of the Regular, Territorial Force, and Special Reserve, R.A.M.C., are the same, but the Regular is working for a pension or gratuity in addition; this works out at £125 a year or 7s. a day. He can draw it after eight years' service in the form of a gratuity (£1,000).

In the navy the same amount per annum is set aside, but in that case a surgeon can draw it after eight years or after four years—that is, he can withdraw with a gratuity of £500 after four years. If this rate—£500 after four years' full-time embodied service for each period of four years that he has served—is considered right in peace time (for either regular service), is it unreasonable to ask *at least* the same after four years of war time for the Territorial Force? This the Territorial Force and Special Reserve do not get, though pay of Territorial Force and Special Reserve is no more than Regulars. The temporary R.A.M.C. may be considered to get it in the form of 7s. a day extra pay (24s. instead of 17s. a day on joining), in addition to which he gets a war bonus of £60 a year.

A Territorial Force or Special Reserve officer, R.A.M.C., gets the same pay and allowances as the Regular, but no reserve pay nor increased pay in lieu thereof that the R.A.M.C.(T.C.) officer gets. His average gratuity over a period of four years is the same (£60), no increased gratuity being given him to compensate him for his smaller pay and allowances.

Junior Territorial officers who had joined before the war were in a still worse position. The above refers chiefly to those men who joined the T.F. or S.R. after the outbreak of war.—I am, etc.,

August 23rd. CAPTAIN R.A.M.C.T.

SUPPLY OF SERUMS AND VACCINES FOR INSURANCE PATIENTS.

SIR,—Dr. Fairlie of Blyth, in his letter in your issue of August 16th, again raises the question which affects the rural dispensing panel practitioner most vitally, as to what are drugs and what are not.

How does it happen that a rural practitioner in Scotland is "warranted" by the Scottish Insurance Commission a supply of serum, and Dr. Fisher is told he must supply and pay for it like an ordinary drug? How does Dr. Smith Whitaker reconcile these two cases? The money we rural dispensing men get does not in many cases cover the actual cost of drugs, and for all our time taken up dispensing, packing and dispatching our medicines to distant country patients by all modes of conveyance, and paying for the carriage, dispensing as we do early and late (we have no regular hours like the chemist). For all this extra work and worry we get nothing; apparently our time is considered of less value than that of the chemist!

On the top of all this, we have all along it seems been expected to supply vaccines and serums. Until the case of Dr. Fisher and the Commissioners' ruling none of us dreamt of such a thing.

As things stand, does it mean that every servant girl with acne, every insured person with recurrent "colds" or chronic bronchial catarrh, or with asthma, is to have a special vaccine at our expense? Are we to take swabs of the nares and throat, collect pus, send it to the bacteriologist, and have this vaccine or serum prepared according to the result of his examination, and make the injections at set times, and pay for all out of our own pockets? If so, then the sooner every dispensing rural doctor gives notice he will no longer dispense for insured persons the better—otherwise he will become bankrupt. We are now being asked for vaccines by servants whose mistresses have either heard of or been under this form of treatment themselves.

I trust this important matter will not be forgotten in framing new regulations, and that there will be a revision altogether of Dr. Smith Whitaker's ruling.

If serums and vaccines, according to the commissioner, are to be considered ordinary drugs, how does it come that there is no mention of them in the monthly table of drug prices issued by Insurance Committees to practitioners on the panel?—I am, etc.,

Felton, Aug. 18th. ROBERT A. WELSH.

MEDICAL REMUNERATION.

SIR,—Will you allow me to express shortly some reasons for the undoubted dissatisfaction which at present exists in our ranks, and especially, perhaps, in our rural ranks, as to the monetary rewards of medical services?

1. A "living wage" can only be obtained by working continual overtime.
2. This continuous work, without any sure holiday, day or night, summer or winter, prevents a medical man from enjoying the amenities of life and tries his health; and
3. The work of the profession being arduous and most responsible, since it deals with the very lives of men, should be at least as well rewarded as that of any other profession, while at present, if the hours worked be compared, it is probably by far the worst.

I would suggest, then—

1. That the overtime that is necessary should be definitely allowed for in the increase of the capitation fee for National Health Insurance work which is now being sought.
2. That private fees be raised to an amount that will enable a medical man to earn a fair living, calculated on a week's work of, say, forty-four hours.
3. That all medical reports be charged at the rate usually paid for professional reports and not as mere clerical work.
4. That the shabby fees paid by all Government departments be refused, and the corresponding fees that are paid, for example, to the legal profession be demanded.

I believe that the people of this country, with their sense of justice, will support such claims if they are placed before them clearly.—I am, etc.,

August 25th. RURAL SCOT.

NATIONAL INSURANCE AND UNALLOCATED PERSONS.

SIR,—Dr. Dewar, in his letter in your issue of August 23rd, appears to ignore the fact of the existence of a large body of the public who have had their insurance cards signed by a doctor on the panel, and after a few attendances have decided for the future to pay a doctor who is not on the panel.

A considerable proportion of my practice is made up of such patients, who do not remove their names from their panel doctor's list. Surely this is well known.—I am, etc.,

London, Aug. 23rd. A. F. SHOYER.

SIR,—Dr. Dewar attempts to disprove the statement in my letter of July 18th, "that there are approximately 20,000 insured persons in Edinburgh who receive professional attendance and treatment from non-panel practitioners, and that this number is increasing annually," and to prove that the number is no "more than a little over 2,000 persons in all, and that is a wide margin."

In the first place, Dr. Dewar starts from a wrong assumption, and in the second from a false premiss. The assumption that the figures submitted by me were based on the number of unallocated persons is wrong. The false premiss arises when Dr. Dewar assumes that all insured persons on "doctors' lists" receive medical attendance and treatment from those doctors, and that this assumption should be accepted as a definite fact. Dr. Dewar must know that the number of insured persons on the lists of panel practitioners is no evidence of the number of those persons who receive medical treatment and attendance from non-panel practitioners, and also that the number of unallocated persons can offer no estimate.

It is well known that a large number of insured persons have been allocated to the list of panel practitioners who never desired to be so allocated, as they never intended to

apply for medical benefit, and this accounts for the decreasing number of the unallocated to which Dr. Dewar refers. It is also known that a large number placed their names on the lists of panel practitioners in ignorance, many believing that they were compelled by law to do so, while others believed they must to receive their sickness benefit.

Much more could be written on this issue, but it may suffice to state that the figures in my letter were estimated from the number of insured persons on the day-books of non-panel practitioners, and are now believed to be a conservative estimate. These numbers are represented by a percentage of the unallocated, but the greater part by those insured persons who appear on the lists of panel practitioners.—I am, etc.,

Edinburgh, July 23rd. FREDERICK PORTER.

RECORD CARDS.

SIR,—In the event of a decision to keep records being agreed when the next general bargaining takes place between the Government and the profession, I now desire to make the following observations.

The Insurance Acts relate to workers only, and those workers may be divided into two classes, as follows: (*a*) Those who keep on working, but occasionally visit the practitioners' surgeries and chemists' shops; (*b*) those who are not working, and who are drawing upon the funds of their societies.

It is in reference to class (*b*) only that records should in any way be considered. The class (*a*) is entirely out of court with regard to records, for records of these people are not only absolutely valueless in themselves, but actually destroy the value of the class (*b*) records if mixed up with them.

The State can only be concerned with the causes which keep the workers from their work, and cannot in any way be concerned as to the reasons for visiting the practitioners' surgeries and chemists' shops.

In my opinion the record cards and record slips formerly in use would do very well for the purpose. I am not in any way disposed to advocate a new form of record card, which could only lead to the waste of large quantities already in stock and would cause unnecessary extravagance in paper and printing which the occasion does not in any way whatever warrant.

It is up to every man in every walk of life who has the well-being of his country at heart to do his best to put down the waste and extravagance which goes on in Government departments, examples of which are furnished to us in the newspapers every day.—I am, etc.,

ADAM FOX, L.R.C.P. and L.R.C.S.Edin.

Stalybridge, Aug. 24th.

REMUNERATION FOR 1920.

SIR,—Judging from what I have read in reports of Panel Committees, it is extraordinary to me how little they, let alone individuals, realize the seriousness of our position. With the exception of civil and municipal and other salaried servants and ourselves, *all classes* are getting at least 100 per cent. increases in their incomes. Why? Because money has decreased in value at least 100 per cent.? Why should there be any exceptions made to bear an unfair share of war taxation? Ask anybody—ask Mr. Bonar Law—what is the value of money to-day. The Leader of the House is reported to have said that £2,000 to-day was nothing like the equivalent of the same salary before the war. I think he said *the increase should be 250 per cent.* Therefore that panel practitioner who is looking after 8,000 (?) insured persons is not earning anything like the equivalent of what he earned before the war.

Let us drop the words "increased cost of living" (who shall define "living"?) and adopt "decreased value of money," and it will be an easier task to decide what remuneration to ask for 1920.—I am, etc.,

C. E. EVANS,
Member of London Panel Committee.

London, N., Aug. 26th.

MEDICAL APPOINTMENTS UNDER THE MINISTRY OF PENSIONS.

SIR,—It is not easy to reply to a letter such as Dr. S. J. Ross's in your issue of August 23rd, p. 254. In common with many others, I in 1915 left wife and family and practice gladly and willingly to do my bit, and for four years in the East, in France, and at home did my best. I have been shelled, bombed, nearly torpedoed, have been dysentery-sick and louse-bitten, and I feel still that I asked for it when I volunteered, and do not grouse.

But having joined the army and held a commission—active and in the field—with pride, I do feel that I and my comrades have a right to claim such posts as medical officers to pension boards as ours.

Truly, I do now sit on one perhaps twice a month, but I find my civilian friends get their full share also.

There are two aspects of the case I would specially plead. There are men in the army who "swung the lead"—they were far rarer than the regular army would have us believe—and surely who is better suited to judge these on a board than an ex-regimental medical officer, who not only has experience of such, but also is so honestly proud of the British infantryman that he would not do him an injustice?

Again, how can a doctor judge a post-malarial or dysenteric condition who has never seen one in his life in the acute state?

Those who remained in practice during the war worked hard—though incidentally the influenzal epidemic did occur in the army also—but they literally coined money. We did not.—I am, etc.,

August 24th. 1915.

MATERNITY AND INFANT WELFARE WORK.

SIR,—On returning to England, after an absence of nearly three years, like many others I see many changes. We have established a Ministry of Health to ensure and supervise the health of the people, and to organize attempts to secure it. Prevention is better—and far cheaper—than cure, and to prevent disease the Ministry is devoting much attention to maternity and infant welfare work. This is work started some years ago and carried on, under very difficult conditions, by a mere handful of devoted men and women, but it has always remained more or less influenced and even thwarted by the goodwill or otherwise of the local health authority.

At one bound it has now become a great and vital national question. Money is freely poured out to satisfy the needs of mother and child in their helplessness. The wish and the enthusiasm to help is great, but this growing popularity of the work and the ease with which we can now get money to carry it on is rapidly becoming a danger.

By education we can arrive at a clear understanding of the importance of good health; but education, as ordinarily interpreted, cannot alone build character. The spirit of self-reliance and independence, which has once again, as so often before, shown itself so strong a national characteristic in this war, is our priceless asset. At the present moment, in our zeal to do and our manifold talk of doing all that is necessary to produce health and healthy conditions, there is a great danger that by injudicious giving we may in some way destroy that vital spark, and by so doing weaken the backbone of the nation.

Let us realize this danger, and as thoughtful and earnest men and women get to understand and appreciate the tremendous scope and possibilities of the work we are at this moment furthering. For it means nothing less than the making or the marring of our nation. Let us be very sure we build on sound foundations which can carry the edifice we propose to erect. Let us, by careful thought and wisdom, so devise our scheme that it will really further the true welfare of the people, yet in no way lessen their self-reliance and independence; for these beyond all are essential; losing these we lose all. By all means let money be spent generously and ungrudgingly on this work, for wise expenditure is profoundest wisdom, and it ought to bring return even in added national income, as well as in those far more valuable "imponderables" beyond price, without which all income is Dead Sea fruit. But let us beware lest we destroy that invaluable spirit, which has not only saved us so often in history but on which literally all hope for the future depends. In casting our bread upon the waters, method and motive make all the difference whether there is ample return after many days or merely a sodden mass of waste. Let us by every means try to build up character that our children may

grow up healthier and purer men and women, and citizens who know and understand their duty and have the will to do it. It is a slow and not a showy performance; but it is sure, and nothing else is one-half so certain to repay all our labour. It is, too, of the very highest national importance.—I am, etc.,

London, S.W., Aug. 13th. EFFIE M. D. CRAIG.

THE ASYLUM MEDICAL SERVICE.

SIR,—I am always amused when that hardy annual, "The Grievances of the Asylum A.M.O.," makes its appearance. In 1916 I accepted the post of temporary assistant medical officer in a large county asylum. I went there with the expectation of staying about a month. But as I found that the asylum estate afforded fair rough shooting, and was bordered by a small trout stream, I remained nearly three years. I therefore consider that I am in a position to give an unbiassed opinion of the advantages and disadvantages of the Asylum Assistant Medical Service. The advantages are:

An easy life.
No night work.
A month's holiday.
First-rate quarters and attendance.
Good pay and low expenses.
Plenty of spare time for the pursuit of sports or other amusements.
The impossibility of marriage.

The great disadvantage is:

That the professional work is not merely uninteresting, it is positively disgusting.

To the earnest youth who starts upon his professional career with the laudable ambition of becoming a successful physician or surgeon my advice would be, "Don't." But to the "man of forty" who has taken Cardinal Wolsey's excellent advice the life is not altogether unattractive.—I am, etc.,

August 11th. 12 BORE.

THE PASTEUR INSTITUTE OF ASSAM.

SIR,—May I ask permission to correct in your columns two slight misinterpretations with regard to work done at this Institute which have recently appeared in your columns?

I. *Mixed Vaccines in Influenza.*

The first is in connexion with the issue of a mixed catarrhal vaccine in influenza. In your editorial on "Influenza in India," April 5th, 1919, p. 418, the following passage occurs:

A mixed vaccine was prepared and issued from the Assam Pasteur Institute, but Major White justly observes, "it must be realized, however, that in the event of a recrudescence of the epidemic, in a form in any way comparable to the last, inoculation would be little likely to confer any appreciable benefit on India as a whole . . . the epidemic would run its course before we should have time to reach a tithe of the population."

This passage might be held to imply that the Institute had attempted wholesale immunization against influenza, which is not the case. The attempt made was to immunize the labour force of the tea industry in Assam against the secondary and fatal complications associated with the disease. This labour force is under full control, with an efficient staff of medical officers, and amenable to inoculation. The facts are as follows:

In October, 1918, the tea industry of Assam was very seriously threatened by the prevailing pandemic. The labour force on the gardens was being decimated by the disease. There was a constant and vigorous demand for radical measures. The Institute obtained daily supplies of freshly collected sputa from severe and fatal cases which occurred locally, and commenced the output of a mixed catarrhal vaccine. This vaccine contained Pfeiffer's organism, pneumococcus, *Micrococcus catarrhalis*, streptococcus and staphylococcus in primary subculture from such sputa. It was standardized by counting to a strength of 1 c.cm., equals 500 million mixed organisms. In November a first issue of 3,000 c.cm. was made with a view to an experimental test in the hands of three careful medical observers.

It was suggested that, immediately a case of influenza occurred on a garden, all contacts should receive a dose of half a cubic centimeter, not with a view to try and prevent their developing influenza, but in the hope of warding off secondary complications—in brief, in the hope of rendering influenza in the inoculated a relatively harmless and innocuous disease, since the death-rate is essentially due to secondary complications, and not to the primary infection.

The subsequent demands for the vaccine have been very large. To date the amount issued is 239 litres, or approximately half a million doses. The practice of inoculating the whole labour force of the garden the moment that influenza appears or recrudesces in the neighbourhood is now in force in practically every tea estate in the province.

As to results, it is as yet entirely premature to speak. The use of vaccines in respiratory affections is very experimental. The use of stock vaccines is admittedly very empirical. A printed circular has been sent out asking for detailed figures, and the large numbers inoculated may afford a sufficiently large statistical basis for deductions. Of over 500 circulars sent out only 54 have so far been replied to. Later it may be possible to form some estimate as to the usefulness or otherwise of the vaccine, and to compare figures on inoculated gardens with figures for the uninoculated in the same districts at the same periods. The general tenor of the reports hitherto received goes to show that such a mixed vaccine produces a definite, but transitory, immunity to the secondary complications, and helps materially to reduce the mortality in an influenza epidemic. Some workers, unexpectedly enough, are strongly in favour of the use of such a vaccine in the actual treatment of cases.

II. *Antimony in Kala-azar.*

The second reference occurs in a paper in your issue of June 7th, 1919, p. 703, by Major G. C. Low, M.D., C.M., M.R.C.P., on the intravenous injection of tartar emetic in kala-azar. He quotes Archibald and Innes as follows:

In discussing the question of poisonous effects of antimony the authors cite Knowles as recording five deaths out of twenty cases of kala-azar treated by this method. No details are given as to whether these deaths were due to the antimony or not.

The details are given in my paper in the *Indian Journal of Medical Research*, 1918 (vol. v, No. 4, p. 548). Four of the deaths were in no way due to the antimony treatment. In one instance—a patient who developed oedema, dyspnoea, and cardiac failure within forty-eight hours of the fifth consecutive injection of 10 c.cm. of a 2 per cent. solution—the question was discussed as to whether death might or might not have been due to cumulative antimony poisoning, and notes were given as to the procedure of administration regarded as safe and satisfactory. The subsequent experience (fortunately of other workers, however) shows that this death also was not due to tartar emetic. Toxic symptoms due to antimony poisoning come on almost immediately after the last dose, are very marked, and usually are either recovered from or prove fatal within twenty-four hours. The case referred to was not a death from antimony poisoning.

I should, indeed, be very sorry to be cited as opposed to the treatment of kala-azar by intravenous injections of tartar emetic. I regard it as the sheet anchor of treatment of the disease. In the last two and a half years 46 cases of kala-azar have been treated at the Institute by intravenous injections of tartar emetic, supplemented in six instances by a few injections of colloid antimony. The results are as follows: Cured, 33; died, 11 (from bronchopneumonia 1, from dysentery 4, from asthenia and cardiac failure 2, from influenzal pneumonia when they were apparently recovering from kala-azar 4); absconded before completing treatment, 2. Four further cases remain under treatment and are doing well. The test for cure has been, wherever possible (26 cases), spleen puncture after treatment with negative findings and negative results on culture of the spleen juice on N.N.N. medium.

On the other hand, the administration of tartar emetic is not without risk, since there is little, if any, evidence that the body acquires tolerance to the drug; and the results and experiences of the two years have led to formulating the following rules for treatment:

1. The solution used is a 1 per cent. solution in normal saline, autoclaved for ten minutes at 110° C., and kept in a rubber-capped flask. If there be any trace of opalescence or deposit in the solution, it must not be used.
2. For an adult the initial dose is 4 c.cm. every alternate day. Cure is usually complete when 2 grams have been given in

all over a course of two and a half to three months' treatment. The maximum dose used is 11 or 12 c.cm. Early in the course of treatment the injections are given on alternate days. Later, as the patient becomes free from parasites, the tissues seem to become more susceptible to the drug; and the intervals between doses are increased. No attempt should be made to push the drug at any stage.

3. Neither albuminuria, bronchopneumonia, cancrum oris, a slight cardiac lesion, nor dysentery, are contraindications to tartar emetic treatment. But in the presence of any complication the greatest care must be exercised in dosage and watching results. In a recent case a child of 12 was *in extremis* with what was apparently the terminal dysentery of the disease for eight days. Death was expected at any moment. The tartar emetic injections were continued, however, and the patient made an unexpected and complete recovery. He has put on 12 lb. in a month, and is now the picture of health. The condition of the heart and the degree of albuminuria need constant attention.

4. Subsidiary treatment is also essential. Any helminthic infection must be cleared. Iron and ammonium citrate and tincture of nux vomica are given as a general tonic throughout. Any attack of malaria is met by the intravenous injection of quinine acid hydrobromide.

The best testimony to the efficacy of the treatment of kala-azar by intravenous injections of tartar emetic is the present state of the disease in the province. Until recently it has always been an easy matter to obtain patients for treatment and experimental observation; one had only to ask one of several medical officers of different tea estates to send cases. Now the cases on the tea gardens are almost all under treatment by intravenous tartar emetic; medical officers are unable to find untreated cases to send to Shillong; villagers from villages outside the tea gardens are unwilling to come to hospital; and the greatest difficulty is being experienced in getting cases to Shillong for the study of the etiology and mode of spread of the disease.—I am, etc.,

R. Knowles,
Captain I.M.S., Director.

King Edward VII Memorial Pasteur Institute,
Shillong, Assam, July 7th.

Obituary.

Professor A. G. Vernon Harcourt, F.R.S., died on August 23rd, in his 85th year. For the greater part of his life he was identified with Oxford, and early gave himself up to chemistry, being still an undergraduate when demonstrator to Brodie, the first professor of chemistry in Oxford. Vernon Harcourt was particularly concerned with the physical side of chemistry, a department in which at that time many incompatible opinions were held. He had a considerable share in establishing knowledge in it on a sound basis, particularly by showing, when working with William Esson, that the rate of chemical change is strictly proportional to the mass of the reacting substances. Of the applications to technical matters of his wide knowledge of chemistry and great dexterity in manipulations, the two which will be most remembered are his work with regard to the testing of gas while he was one of the three metropolitan gas referees, and the assistance he gave to the special Chloroform Committee of the British Medical Association. In conjunction with Professor Dunstan and Professor A. D. Waller he undertook certain physico-chemical researches, and in the report of the Committee described methods for testing the total amount of chloroform from any source not yielding other volatile compounds of chlorine, and for the estimation of chloroform in air and in blood. He devised a chloroform regulator, and also an inhaler for practical use, which in some one or other of its modifications has been very largely employed. He also wrote an article in the same report on the proportion of the chloroform administered which is retained by the patient; he concluded that the operative part of the chloroform retained seemed to be small since only a small fraction has been breathed out when consciousness returned; he suggested that it was possible that the greater part of the chloroform retained and passing for a short time into the blood is distributed throughout the body without contributing to the anaesthetic effect, and that though chloroform is accumulating in the body, only the small part, which may not increase, held in solution at any time in the blood acts upon the brain and other nerve centres.

Thomas Torkington Blease, who died on June 2nd, was born at Altrincham, Cheshire, on October 4th, 1835. He was the son of Thomas Blease, L.S.A., who was born in Altrincham in 1804, and practised there until his death in 1883. Father and son were together in practice for twenty-seven years, then Dr. T. T. Blease carried on the practice for twenty-one years, when he in his turn was joined by his only son, who survives him. Thomas Torkington Blease took the diplomas of M.R.C.S. and L.S.A. in 1856, after studying at the Manchester Royal Infirmary and the Pine Street School of Medicine, and in London. He at once commenced practice in Altrincham, and in 1858 founded the Altrincham Provident Dispensary, now the Provident Dispensary and Hospital. To this institution, of the success of which he was justly proud, he gave devoted service for more than forty years, after which he was appointed to the consulting staff. He was for over forty years medical officer to the Altrincham District of the Bucklow Union and to the Great Central Railway Mutual Provident Society; on his retirement in 1908 he was the recipient of an illuminated address from the members. He also held numerous appointments with other friendly societies. He most thoroughly approved of the principle of these efforts of the working classes to help themselves, and won the esteem of the members by the way in which he never spared himself in connexion with such work. He continued to hold these appointments until the commencement of the working of the Insurance Act, of which interference with the liberty of medical men he was a strong opponent; he fortunately lived to see the success which rewarded his own and his son's determination to have nothing to do with the panel system. Until comparatively recently he enjoyed extraordinarily good health; when over 70 no amount of night work seemed to make any difference to his ability to carry on during the day, and he was able—first in association with his father, then single handed, and later in association with his son—to conduct an extensive private practice. He was a burgess of the Altrincham Court Leet (founded in 1290), and declined the office of mayor, and also was a member of the council of the Conservative Association, and a vice-president of the Conservative Working Men's Club.

We regret to record the death of Dr. Patrick Sheehan of Carlisle on July 23rd, in his sixty-first year. He settled in Carlisle about twenty-three years ago, and rapidly obtained a large working-class practice. When the Insurance Act came into operation he went on the panel, and had the largest panel in the city of Carlisle, amounting to over 4,000. He worked hard, never spared himself, but had an unfortunate breakdown about fifteen months ago, which completely incapacitated him. A fresh seizure occurred on July 21st, and ended fatally two days later. He left a widow and twelve children, with whom much sympathy is felt in their bereavement.

Dr. Frederick Knight, who died at his residence in Swansea on August 7th, received his medical education at University College, London. He took the diploma of M.R.C.S. in 1882, and graduated M.D.Lond. in 1885. He held the posts of resident obstetric officer at University College Hospital and resident medical officer at the General Lying-in Hospital, London. After settling at Swansea he became physician-accoucheur to the Swansea Hospital, as well as lecturer on midwifery under the Swansea Supervising Authority. Dr. Knight was a member of the Swansea Division of the British Medical Association. He married in 1890, and is survived by his widow and four children.

Dr. George Osborne Hughes, M.R.C.S., L.R.C.P., who had been in practice at Winnipeg since 1904, died on May 11th, at the age of 49, from typhoid fever. He was the son of the Rev. William Hughes, a well known Welsh scholar; Dr. G. O. Hughes was president of the Canadian St. David's Welsh Society. He was physician to the Children's Hospital, Winnipeg, and one of the founders of the *Western Canada Medical Journal*.

Major Norman Walter Stevens, R.A.M.C., died of enteric fever in the Colaba Military Hospital, Bombay, on July 27th, aged 31. He was the second son of Mr. W. G. Stevens, solicitor, of Norwich, and was educated at

Edinburgh University, where he graduated M.B. and Ch.B. in 1910. He entered the R.A.M.C. as lieutenant on July 26th, 1912, was promoted captain on March 30th, 1915, and brevet major on June 3rd, 1917.

MAJOR HERBERT LONGMORE GRANT CHEVERS, R.A.M.C. (ret.), died at the Military Hospital, Southmead, Bristol, on August 10th, aged 59. He was the third son of the late Deputy Surgeon-General Norman Chevers, I.M.S., and was born on March 16th, 1860. He was educated at St. Thomas's Hospital, took the Edinburgh double qualification in 1884, and entered the R.A.M.C. as surgeon on August 1st, 1885, retiring with a gratuity on May 26th, 1897. He rejoined for duty in the South African war, and was promoted to major on October 18th, 1902, and again rejoined for duty in the late war on August 9th, 1914.

CAPTAIN JAMES CHRISTIAN SIMPSON, R.A.M.C.(T.F.), died at Cambridge on June 27th. He was the son of the late Rev. James Simpson, LL.D., of Dysart, Fife, and of Edinburgh, and was educated at Edinburgh University, where he graduated M.B. and C.M. in 1887, and M.D., with honours, in 1895, and also took the M.A. at Cambridge (Caius College) in 1905. After filling the post of senior resident surgeon and assistant to the professor of clinical surgery in the Royal Infirmary, Edinburgh, of extra assistant physician to the Royal Asylum, Edinburgh, and of medical officer of health of Fettercairn, he settled at Cambridge. He held a commission in the R.A.M.C.(T.F.) as captain in the 1st Eastern General Hospital (Cambridge), dated March 22nd, 1915.

CAPTAIN JAMES WILSON BURTON, R.A.M.C., died of gastritis at Rawal Pindi on July 5th, aged 28. He was educated at Glasgow University, where he graduated M.B. and Ch.B. in 1912. He took a commission as lieutenant in the Territorials, in the 2nd Lowland Field Ambulance, on October 12th, 1914, and subsequently transferred to the regular army, becoming captain on April 12th, 1918.

SURGEON COMMANDER SAMUEL HENRY VICKERY, R.N., died of pneumonia at the Royal Naval Hospital, Invergordon, on July 25th. He was the eldest son of Dr. G. Vickery, of Kinsale, County Cork, and was educated at Trinity College, Dublin, where he graduated M.B., B.Ch., and B.A.O. in 1903. He afterwards entered the navy as surgeon, was promoted to staff surgeon on November 21st, 1912, and recently to surgeon commander. He was borne on the books of H.M.S. *Thalia*, storage hulk in Cromarty Firth, for medical charge of Dunskeith Naval Dépôt and of the Royal Marine garrison at Cromarty.

LIEUTENANT GORDON ALLISON, 3rd King George's Own Gurkha Rifles, elder son of Dr. T. M. Allison, of Newcastle-on-Tyne, was killed in action at Fort Sandeman, Indian Frontier, on June 8th, aged 20.

LIEUTENANT DONALD ALEXANDER FOWLER, R.A.F., son of the late Lieut.-Colonel B. W. Fowler, R.A.M.C., was accidentally killed flying at Winchester, June 26th, aged 24.

THE LATE PROFESSOR GREENFIELD.

J. H. F. writes: I remember very vividly Professor Greenfield's first visit to Edinburgh Royal Infirmary to assume duty as one of the professors of clinical medicine. It fell to my lot as the resident in charge of his wards to introduce him to his patients. It was an ordeal which has left an indelible impression on my memory. Every patient was examined with care and thoroughness, but there was one case in particular which engaged his attention and aroused his enthusiasm. His colleagues had failed to diagnose it correctly. The moment he came up to the bedside he exclaimed, "Here is a case of myxoedema," and forthwith proceeded to give me a clinical lecture on the case which lasted fully three-quarters of an hour!

He took more than ordinary interest in his hospital patients. He had only been a few weeks in Edinburgh when he astonished me by appearing in his female ward at two o'clock in the morning. He had been anxious on the previous evening about a young girl, aged 15 years, who was suffering from cerebral rheumatism with hyperpyrexia, and had left instructions that he was to be kept informed of her progress during the night. Her temperature had risen to 108° F. at midnight, and, as all our other resources had been tried, I decided to put her at once into a cold bath. The result was satisfactory. The patient's life was saved, and her recovery was rapid and complete. I shall never forget the professor's joy over her recovery.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following candidates have been approved at the examination indicated:

FINAL FELLOWSHIP.—Captain W. H. W. C. Carden, Captain J. V. Cope, Captain J. A. Fretton.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FINAL PROFESSIONAL.—M. Barden, B. A. Cowan, J. Cockburn, T. Coffey, R. S. Conyngham, J. F. Gallagher, D. Hegarty, A. F. Mallon, J. P. Morgan, B. T. McMahon, J. McAleer, M. J. O'Connor, F. G. Phillips, J. Power, J. Pousner, A. T. Rhatigan, T. K. Reddin, W. E. Shipsey.

D.P.H.—Captain P. Ashe, Captain G. Collins, Mr. I. B. Culhane, Captain E. W. Lynch, Captain J. D. MacCormack, M.C., Captain S. D. G. McEntire, Captain C. C. Mecredy, Captain L. M. Rowlette, D.S.O., M.C., Major J. R. Bibby.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*†J. F. E. Burns, *†D. G. Cossham, †W. D. McRae, *†H. H. Selim.

MEDICINE.—*E. V. Briscoe, †O. H. Brown, †J. F. E. Burns, *†D. G. Cossham, *†F. I. G. Edwards, *†C. W. Lakin, H. M. Partridge.

FORENSIC MEDICINE.—D. G. Cossham, J. H. C. Eglinton, G. ap V. Jones, W. D. McRae, H. M. Partridge, G. K. Reeves.

MIDWIFERY.—C. C. Bennett, E. V. Briscoe, D. G. Cossham, F. C. M. Gabites, H. M. Partridge.

* Section I. † Section II.

The diploma of the Society has been granted to Messrs. J. F. E. Burns, D. G. Cossham, F. C. M. Gabites, C. W. Lakin, W. D. McRae, and H. H. Selim.

The Services.

WAR EMERGENCY FUND OF THE ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the committee of this fund, when Sir Alfred Pearce Gould, K.C.V.O., was in the chair, applications for assistance were received, and grants amounting to £1,250 were made to seven applicants. The committee are prepared to receive applications for assistance from demobilized officers of the R.A.M.C.(T.) and Special Reserve. All communications should be addressed to the Honorary Secretary, 11, Chandos Street, Cavendish Square, W.1.

Medical News.

MME. CURIE has returned to her native city of Warsaw to become Professor of Radiology in its university.

DR. ANTHONY RICHARD NELIGAN, physician to the British Legation at Teheran, has been appointed to the Persian Government Hospital, with instructions to reorganize it on modern lines. Till lately the hospital was under German management.

DR. JOHN GRAHAM, who graduated M.B., B.Ch.Glasg. in 1904, has been appointed professor of anatomy in the Anderson College of Medicine, Glasgow, in succession to the late Dr. A. M. Buchanan.

SIR HAROLD STILES has been appointed consulting surgeon to the Chalmers Hospital, Edinburgh, and Mr. Lewis Beesley, assistant surgeon, has succeeded to the post of acting surgeon. Dr. F. W. N. Haultain has been appointed gynaecologist to the hospital.

DR. EVAN JONES (Llanbyther) and Dr. J. H. WILLIAMS (Burry Port) have been appointed to the Commission of the Peace for Carmarthenshire. Dr. Williams is a county councillor and has contested the seat for East Carmarthen as a labour candidate at two parliamentary elections.

THE Board of Trade notifies that in accordance with the provisions of Article 295 of the Peace Treaty, which requires all the parties to the Treaty to adopt the International Opium Convention, the importation of opium and cocaine, except under Home Office licence, remains prohibited.

A THREE months' course of lectures and demonstrations in hospital administration will be given by the medical superintendent, Dr. R. M. Bruce, at the Western Hospital, Seagrave Road, Fulham, on Tuesdays and Fridays at 5 p.m., beginning on September 30th. The fee for the course is £3 3s. Further particulars can be obtained on application to the Clerk, Metropolitan Asylums Board, Embankment, E.C.4.

THE Cream Order, 1918, which was suspended on April 12th, will come into force again on September 1st. Applications for cream for children under 5, and for invalids, accompanied by a doctor's certificate, can be made to the local Food Committee.

WE have received from Messrs. Oliver and Boyd, Tweeddale Court, Edinburgh, a copy of a new edition of their tabular view of income tax provisions, revised to include the changes made in the 1919 Budget. It is a brief but very comprehensive statement, and embodies particulars and tables which will greatly help the inexperienced in calculating the rates. The price is 1s. net and 1s. 2d. post free.

THE Society for the Study of Inebriety will hold a conference at the house of the Medical Society of London on October 14th. A breakfast will be given by the National Temperance League, and at 10.30 a.m. the President of the Society, Sir Alfred Pearce Gould, K.C.V.O., will deliver an introductory address. A discussion will then be opened by Lord D'Abernon on the scientific basis of drink control. In the afternoon Sir Thomas Whittaker, M.P., will open a discussion on alcohol in relation to recreation and refreshment and the public house. The Norman Kerr Lecture will be delivered at 5.30 p.m., in the Robert Barnes Hall of the Royal Society of Medicine, by Mrs. Mary Scharlieb, C.B.E., M.D., on the relation of alcohol and alcoholism to maternity and child welfare. Members and associates can introduce visitors on forwarding their names to the honorary secretary, Dr. T. N. Kelynack, 139, Harley Street, W. 1.

THE twelfth annual report of the Midhurst Sanatorium contains some interesting information with respect to some of the special work that has been done. Much benefit has resulted from regular dental inspection and treatment; only a comparatively small percentage of the cases of disorder of the throat were found to present evidence of tuberculous disease. In the course of his report upon statistical research, Dr. Noel Bardswell records the institution of a satisfactory card-index system and calls attention to the success already achieved in tracing the after-history of discharged patients. The number lost sight of does not quite amount to 2 per cent. Many former patients of the sanatorium were able to take their part in the war, serving in all the different campaigns. Distinction is made in classifying patients between those with bacilli in the sputum and those without. The steady disappearance of the bacillus in any given case would seem to justify a hopeful prognosis. When definite improvement is taking place, the microbe is generally absent after the first twelve weeks. If still present, a second period of three months is usually needed. Tuberculin was not used for two years, and a comparison of results is therefore possible between this period and the preceding years in which it was employed in treatment. The general outcome of the comparison is negative, as the returns show no marked difference in the average of success and failure.

THE report of Dr. F. S. D. Hogg, Medical Superintendent of the Dalrymple House, maintained by the Homes for Inebriates Association, at Rickmansworth, contains a summary of 1,331 cases discharged since the institution was opened in 1883. The average length of the period under treatment was five and a half months, and 156 patients were readmitted. The results in cases discharged during the last sixteen years expressed in percentages are as follows: 41.4 per cent. were doing well; 7.5 per cent. were improved; 10.8 per cent. were not improved; and 32.6 per cent. were dead, or could not be traced. Speaking from experience of a thousand consecutive discharges, he states that, as a rule, the longer the residence in the retreat the better the average of good results. He strongly advises that a patient who makes up his mind to enter a home at all should enter under the Inebriates Act. The request for admission, which may extend to any period not to exceed two years, may be made in the presence of a stipendiary magistrate or before a justice of the peace. A statutory declaration must be made before a justice of the peace or a commissioner of oaths by two persons of either sex. All this can be done at the time of admission if desired. The majority of persons, however, prefer to enter as private patients. Thus last year of thirty-eight admitted only five entered under the Inebriates Act. Private patients can leave at any time, but they are apt to be too optimistic about their recovery. In treatment the chief aim is to restore the patient to a sound physical condition, to cultivate his self-control, to strengthen his will, and to make him realize that part of his cure lies in his own hands, total abstinence from alcohol, or from drugs if he is a drug taker, being absolutely essential. The ages of the majority of cases admitted since the home was opened was 30 to 50.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

GOLF IN PREGNANCY.

"L. G." asks: Is golf playing, with regard especially to the club swinging movements, injurious to a pregnant woman at any stage of the pregnancy?

TENNIS ELBOW.

"S."—The case described appears to be an instance of "tennis elbow," a not uncommon condition. Long-continued abstention from the movement which started the trouble and massage (not movement) with iodex and methyl salicylate and the wearing of a restraining crêpe bandage offer the best hope of cure.

INCOME TAX.

"F. S. K." is a medical woman attached to the R.A.M.C. Is she entitled to pay income tax at the special "service" rate?

*** We fear it is not possible to give a definite answer without further particulars as to the nature of the work performed, the precise appointment, to what extent our correspondent is subject to military discipline, and the fund from which her remuneration is paid.

ESTIMATION OF HYDROGEN-ION CONCENTRATION.

"C. J. Y." asks for references to recent methods of estimating hydrogen-ion concentration of the blood and other biochemical methods.

*** We referred this question to Dr. J. S. Haldane, F.R.S., who has been good enough to reply as follows: "Unfortunately there is no existing textbook giving up-to-date information as to methods of determining hydrogen-ion concentration in the blood, and as I am away from home I cannot give exact references to recent papers. The most important are those of Hasselbalch of Copenhagen in the *Biochemische Zeitschrift* from 1912 onwards. A very important one is in vol. xlvi, p. 416 (containing references to previous work). The papers of Peters and of Parsons in the *Journal of Physiology*, from about 1914 onwards, are also very important as regards methods. A paper by Kellas, Kennaway, and myself in the forthcoming number of the *Journal of Physiology* deals with some general aspects of hydrogen-ion regulation. Unfortunately the methods for hydrogen-ion concentration in blood are still in certain respects a subject of acute controversy." In Cole's *Practical Physiological Chemistry* (Cambridge: W. Heffer and Sons, 1919, price 15s.) there is a general discussion of the subject of the concentration of hydrogen-ions, and a method is given for its determination in the urine. A review of the book is published at page 274.

LETTERS, NOTES, ETC.

THE WAR—PARTNERSHIP ADJUSTMENTS.

WE have on several occasions been consulted with regard to an equitable adjustment between two partners when one has been absent on military service. The basis of adjustment which seems to be fair, and is known to have been put into operation with success, is to treat the army pay, etc., as a profit of the practice. The chief difficulties of this method are (1) to decide whether the gratuity should be included (it is believed that the tendency in general is to exclude it), and (2) to make a reasonable adjustment for the fact that the absent partner ceases to incur car expenses for the purpose of the practice. Probably the best method of getting round the last mentioned difficulty is to treat the acting partner's car expenses as expenses of the practice during the absence of the other partner. The following calculation, based on

hypothetical figures has been made, and may serve to make the suggested arrangement clear. Two partners are assumed, of whom A. is entitled to three-fifths and B. to two-fifths.

Practice profits...	£1,500	
Less A.'s car expenses	400	= £1,100
B.'s military pay		500
Total		£1,600

In the following the gratuity is taken at £60, the actual annual amount for a temporary officer R.A.M.C., and the average received by a Territorial M.O. who served four years. If the period served by a Territorial M.O. is longer or shorter a correction must be made, as the gratuity in the first year is £96 2s., and in later years half that amount.

Division of Total.	Excluding Gratuity.	Including Gratuity.
	£	£
Total profits	1,600	1,660
of which three-fifths = ...	960	996
two-fifths = ...	640	664
B. already had	500	560
He should take from civil profits ...	140	104
And A. should take from civil profits ...	960	996

Each partner would pay income tax on the basis of the final allocation. B. has, of course, already paid on his military emoluments.

THE LATE PROFESSOR HAECKEL.

DR. W. W. HARDWICKE (London) writes: In the obituary of the late Professor Haeckel, in the BRITISH MEDICAL JOURNAL of August 16th, the writer says: "His teaching reached the extreme of materialism." But Haeckel was not a materialist and did not teach materialism; on the contrary, he was opposed to it. Because he upheld a belief in the monistic theory of the universe, and declared the existence of a dualistic, immaterial, or spiritual world, outside and apart from the cosmos, unproven and superstitious, does not make him a materialistic teacher. He was careful to demonstrate the folly of holding such a belief, as will be seen on reference to his *Riddle of the Universe*. On page 21 is the following:

> The different ideas of monism and materialism . . . are still very frequently confused. (1) Pure monism is identified neither with the theoretical materialism that denies the existence of spirit, and dissolves the world into a heap of dead atoms, nor with the theoretical spiritualism which rejects the notion of matter, and considers the world to be a specially arranged group of energies, or immaterial natural forces. (2) On the contrary, we hold with Goethe that matter cannot exist and be operative without spirit, nor spirit without matter. We adhere firmly to the pure, unequivocal monism of Spinoza: Matter, or infinitely extended substance, and spirit (or energy), or sensitive and thinking substance, are the two fundamental attributes or principal properties of the all-embracing divine essence of the world, the universal substance.

A materialist does not believe in a soul, but at page 139 Haeckel says:

> In the act of procreation a portion is detached from both the (immaterial) souls of the parents; the maternal contribution passes in the ovum, the paternal in the sperm; when these two germinal cells coalesce, the two psychic fragments that accompany them also combine to form a new (immaterial) soul.

DR. MERCIER'S SPIRIT EXPERIENCES.

WE are so convinced of the serious purpose of all Dr. Mercier's writings, and of the sobriety of his judgement, that we have been a little perplexed to know how to deal with one of his latest works. We are relieved, therefore, to be able to present to our readers the following notice by Dr. A. Skelotenes. The literary style seems somehow familiar.

Is Saul also among the prophets? Dr. Mercier commences his little book on *Spirit Experiences*[1] by a brave recantation of his former scepticism and frigid rationalism. He has at length learned the wisdom of Hamlet (was it not?) that there is more in heaven and earth than is dreamt of in plain matter-of-fact philosophy. That stubborn attitude of mind so familiar to those who have to deal with religious controversy, that declines to believe in what is beyond the confines of, though not antagonistic to, human reason, that sees nothing in music but a conglomeration of sounds, is perhaps the outcome of the scientific spirit which dominates our age, but is not on that account wholly commendable. Though we may not be able fully to share the enthusiasm of Dr. Mercier for his new pursuit, merely, for one thing, because we have not ourselves had his wonderful revelations, yet we can admire that ever-young intellect of his which refuses to be strait-jacketed by the incomplete experience of the past. Not long ago, it will be remembered, he produced a book called *Spiritualism and Sir Oliver Lodge*, in which, in his gay, and (shall we say?) juvenile style, he belaboured those who were minded to give serious consideration to the phenomena of spiritualism; he made no bones about it, if one may use so vulgar an expression. *The Times* reviewer of that book, by wisely pointing out that objectors ought to study the subject as closely and carefully as the devotees, for, otherwise, they necessarily came into court convicted in advance of the sin of amateur criticism, is entitled to the credit of arresting Dr. Mercier's formerly thoughtless opposition. Now, having studied the subject closely in view of his more recent personal experience, he is convinced of the error of his ways. His first experiments, which are carefully recorded, and which met with marked success, dealt with thought transference of an elementary nature, and were conducted with the assistance of youthful and artless agents and percipients in whom there was no guile. More elaborate experiments followed, and the results were sufficient to confirm his psychological belief in the existence of telepathy as a veridical fact. He points out that a psychological belief is just as good as a scientific belief when one has to meet the rather cheap criticism of trickery and collusion. Several interesting examples, which are subjected to rather searching examination before being finally accepted, are given of the occult powers of the young mediums (or should it be media?). Thereafter, in order to broaden the foundations of his faith, Dr. Mercier had recourse to more highly gifted professional mediums. In former days he himself would have made the sardonic observation, "*facilis descensus Averni*" (or *Averno*, as some authorities have it). It would be unfair to give away, in a review, the experiences he had, though one must hasten to add that they are not of a nature to bring the blush to the cheek of the most modest. We may be allowed, however, to call special attention to the account of the séances in which he converses with the spirit of his old fellow student Hodgkins, passages that are characterized by reverent treatment not unenlivened by delicate touches of humour. We are not of those who are repelled from investigation of the claims of spiritualism by the light tone alleged to be adopted by some of the spirits of those who have passed over, nor by what superior people are pleased to condemn as puerilities, and in this we are glad to have Dr. Mercier's valuable support. Altogether this little book, the price of which is within the reach of all, can be recommended, for it contains much that "gives us furiously to think," as our French friends say, and is written by one whom few could accuse of impetuous and uncritical credulity.

[1] *Spirit Experiences*. By Charles A. Mercier, M.D., F.R.C.P., F.R.C.S. London: Watts and Co. 1919. (Cr. 8vo, pp. 54. 9d. net.)

CHILDREN'S DREAMS.

THE results of an investigation of the dreams of more than 5,000 children in elementary, secondary, and industrial schools were brought before the Child-Study Society by Mr. C. W. Kimmins, M.A., D.Sc., some time ago. His analysis, based on written records, of the dreams of boys and girls, to the number of over 5,000, showed that boys had far more fear dreams than girls. Fear of burglars and robbers appeared twice as often among the dreams of boys of the elementary schools as it did among those of the girls. Fear of animals was practically the same in both sexes, and was the cause of some 20 per cent. of the fear dreams. The ghost had practically disappered from the child's dream. Boys had more kinaesthetic dreams than girls, these dreams including the sensation of falling or excessive motion and loss of muscular control in movement or speech. Although the normal child was associated with the school for half his waking hours, few dreams had any direct reference to school activities. Girls' dreams were more influenced by the school than boys', but the number was almost negligible. A book read just before going to bed affected the dreamer, and the child nearly always played the part of one of the leading characters. The industrial school child was a most ambitious and imaginative dreamer, and the dreams showed a large proportion of wish elements, relating to home life, visits, and parcels. The Food Controller appeared to have had little effect upon children's dreams, for the subject of rations was only mentioned four times in the 5,000 cases. Children of 12 or 13 dreamed less than younger and older children, and dreams at that age appeared to have a morbid tendency.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 31, 32, 35, 36, 37, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 33, 34, and 35.

THE following appointments of certifying factory surgeons are vacant: Killough (Down), Luddenden (Yorks, West Riding).

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